

## MECHANICAL VENTILATION & HEAT RECOVERY

23

FAN TYPE	FAN LOCATION	MAX PERFORMANCE	PAGE
MRXBOX95-WALL	WALL/CUPBOARD	52l/s	24
MRXBOX95-WH1	WALL/CUPBOARD	110l/s	30
MRXBOX95-LOFT	LOFT	64l/s	36
MRXBOX95-LH1	LOFT	113l/s	44
MRXBOX95-LH2	LOFT	132l/s	52
MRXBOX90-L	WALL/LOFT	125l/s	60
LPXBOXDC-2	CEILING VOID	75l/s	64
COOKERXBOX	KITCHEN	54l/s	68

## MRXBOX95-WALL MECHANICAL SUPPLY & EXTRACT WITH HEAT RECOVERY

UP TO 95% EFFICIENT, SAP APPENDIX Q RECOGNISED.  
WALL/CUPBOARD MOUNTING DESIGN FOR SMALL TO MEDIUM  
HOUSES & APARTMENTS.



## BENEFITS

**MRXBOX95-WALL** is designed to provide optimised balanced (supply and extract) mechanical ventilation with heat recovery. Tempered air is delivered into 'living' areas whilst extracting moisture laden air from 'wet' areas, creating comfortable well ventilated homes. MRXBOX95-WALL uses the latest generation of low voltage DC fans and motors, counter flow heat exchanger and easy accessible controls. The heat exchanger block can recover up to 95% of the normally wasted heat. The two independent fans have full speed control for background and boost ventilation rates as well as a run-on timer facility.

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### HIGH EFFICIENCY

Heat exchanger is up to 95% efficient.

### EASY INSTALLATION

Compact, lightweight and simple to install. Full installation service available.

### LOW MAINTENANCE REQUIREMENT

Filter replacement typically every 12 - 18 months.

### NO NEED FOR TRICKLE VENTS

A cost saving and tenant acceptability.

### IMPROVES INDOOR AIR QUALITY

Prevents condensation by keeping moisture levels low - creating a healthier environment.

### FLEXIBLE SOLUTION

MRXBOX95-WALL ensures a flexible solution with multi 125mm dia. spigots.

### EXTREMELY LOW NOISE LEVELS

Quiet running unit ensuring occupant acceptability.

### FREE OF CHARGE CODE ADVISORY SERVICE

Takes the stress out of specifying.

### WIDE CHOICE

Range of ducting and grilles available, please contact Nuaire.

### OPTIONAL SUMMER BYPASS AVAILABLE

Provides cooling during warmer months. MRXBOX95B-WALL.

### 5 YEAR WARRANTY

5 year parts and 1 year labour warranty guarantee reduced life costs and peace of mind.

### OPTIONAL SENSORS AND DETECTORS

Customise MRXBOX95-WALL for enhanced performance. All supplied with pre-plugged 10m data cable and incorporates status LED.

#### MRXBOX95-PIR (passive infra red)

A low voltage sensor, detects movement and activates system. Incorporates overrun timer and timer adjustments.



#### MRXBOX95-HUM

A low voltage sensor, activates the system when the RH level is above set point. Incorporates overrun timer and RH setpoint level adjustment.

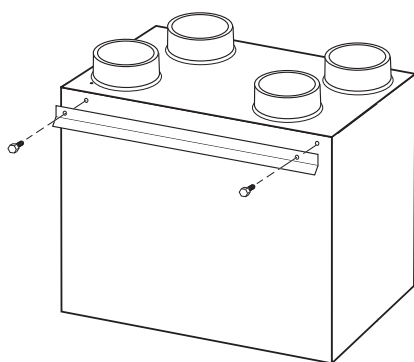


#### MRXBOX95-RFI

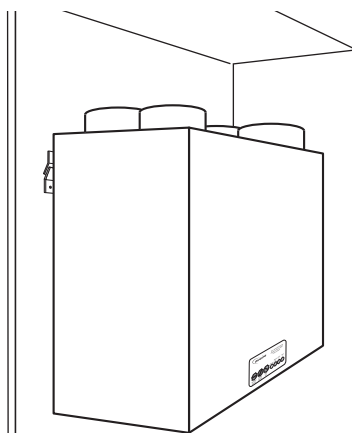
If fan failure occurs the audio visual indicator will flash a warning.



## INSTALLATION

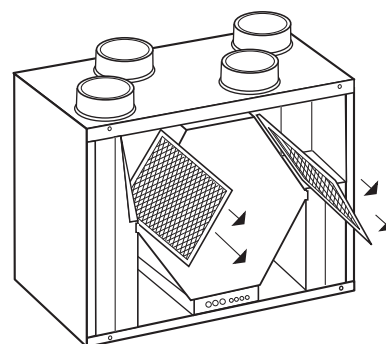


A 2 piece metal bracket is provided with the unit for wall mounting. One part of the bracket is mounted on the wall and the second part of the bracket is attached to the back of the unit.



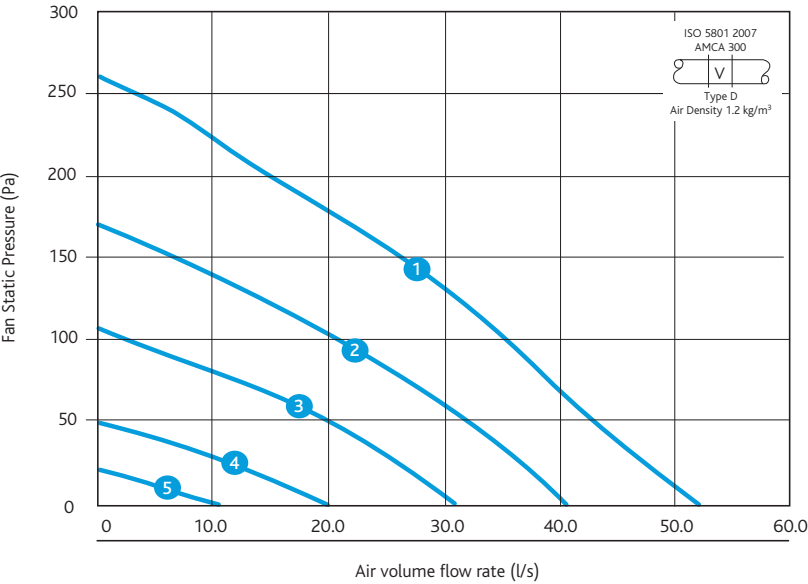
The unit and bracket are then installed onto the bracket on the wall.

## REMOVABLE G2 FILTERS

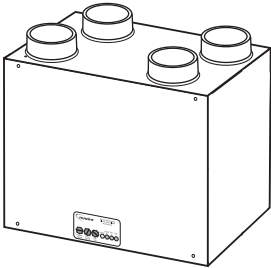


PERFORMANCE MRXBOX95-WALL

MRXBOX95



Casing



Code descriptions

MR-XBOX-95-WALL

- 1

2

3

4
1. Multi-room supply and extract heat recovery

2. Product range

3. Efficiency

4. Wall/cupboard application

SAP APPENDIX Q TEST RESULTS

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Performance Compliant
Kitchen Plus 1 wet room	0.59	92	Yes
Kitchen Plus 2 wet rooms	0.68	91	Yes
Kitchen Plus 3 wet rooms	0.83	90	Yes

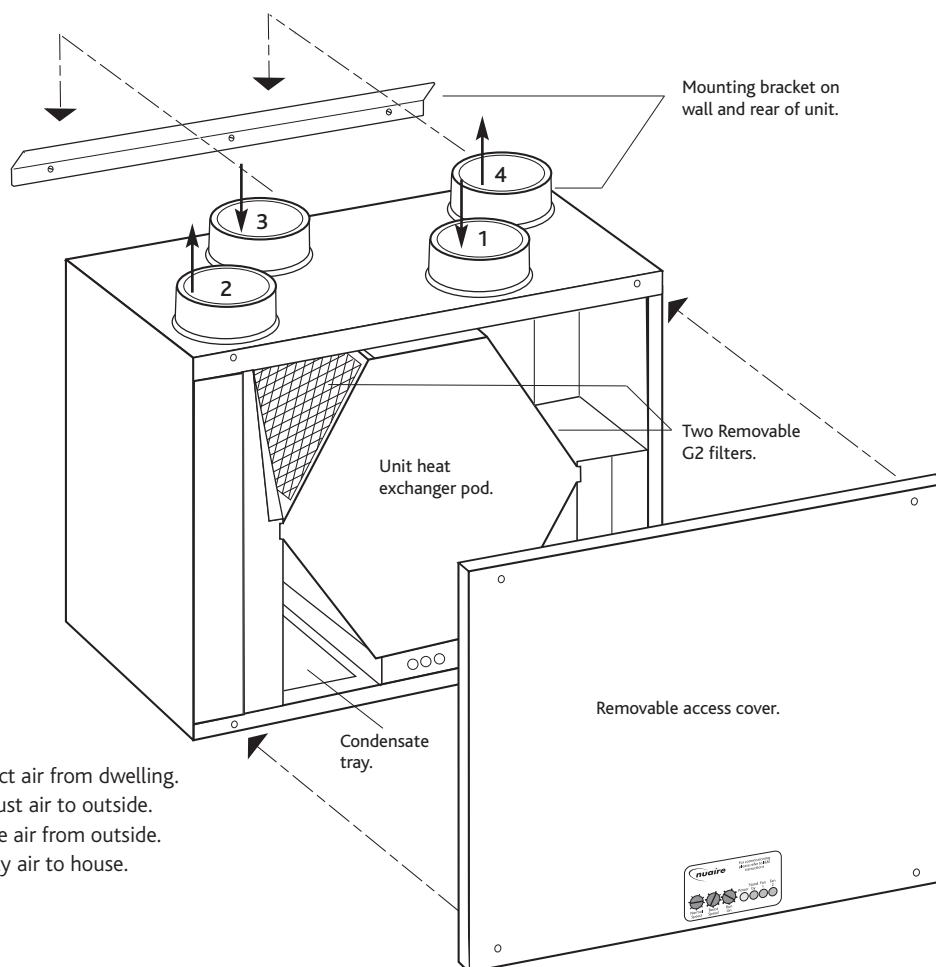
MRXBOX95-WALL

ELECTRICAL & SOUND

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW								dBA @3m
			63	125	250	500	1K	2K	4K	8K	
1	71	Open inlet	45	41	48	47	41	39	24	24	30
		Open outlet	48	51	57	59	54	47	39	33	41
		Breakout	51	50	53	51	43	38	30	26	33
2	39	Open Inlet	44	39	46	44	36	34	20	19	26
		Open outlet	44	48	52	53	48	41	29	25	36
		Breakout	50	48	51	48	38	33	25	21	30
3	21	Open inlet	42	38	43	37	31	26	20	17	21
		Open outlet	42	46	49	49	42	35	23	19	31
		Breakout	48	46	47	44	32	27	19	15	26
4	10	Open inlet	40	35	39	32	23	18	12	9	16
		Open outlet	40	43	44	43	33	20	14	13	24
		Breakout	46	43	43	38	23	18	10	6	21
5	5	Open inlet	35	29	30	20	5	-	-	-	<10
		Open outlet	36	38	37	33	18	11	-	-	15
		Breakout	42	38	36	28	8	3	-	-	13

The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving and based on SAP Appendix Q testing.

## UNIT COMPONENTS



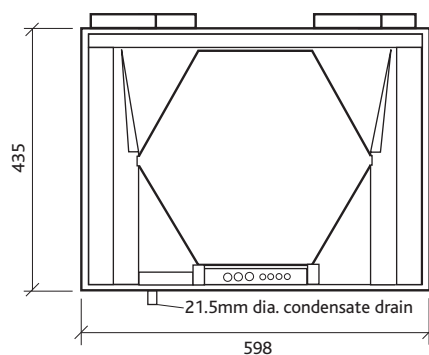
### Spigot Location & Ducting references

- Spigot 1. 125mm dia. = extract air from dwelling.
- Spigot 2. 125mm dia. = exhaust air to outside.
- Spigot 3. 125mm dia. = intake air from outside.
- Spigot 4. 125mm dia. = supply air to house.

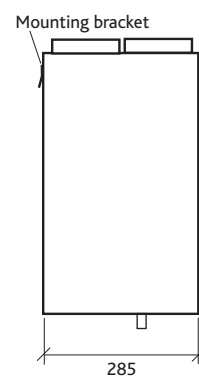
## DIMENSIONS (MM)

Weight 13 Kg

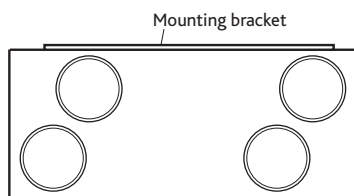
VIEW FROM FRONT WITH COVER REMOVED



SIDE VIEW



VIEW FROM TOP



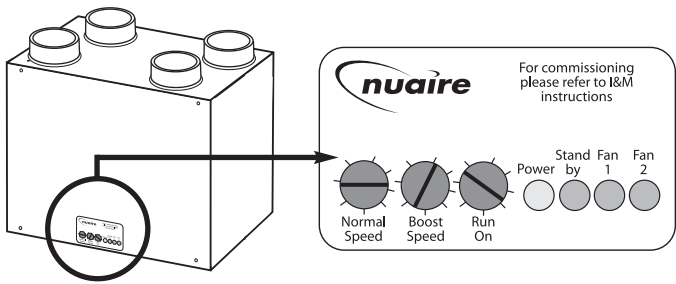
ELECTRICAL CONNECTION

Please note: the electrical connection of the unit must be carried out by a qualified electrician.

Electrical details:-

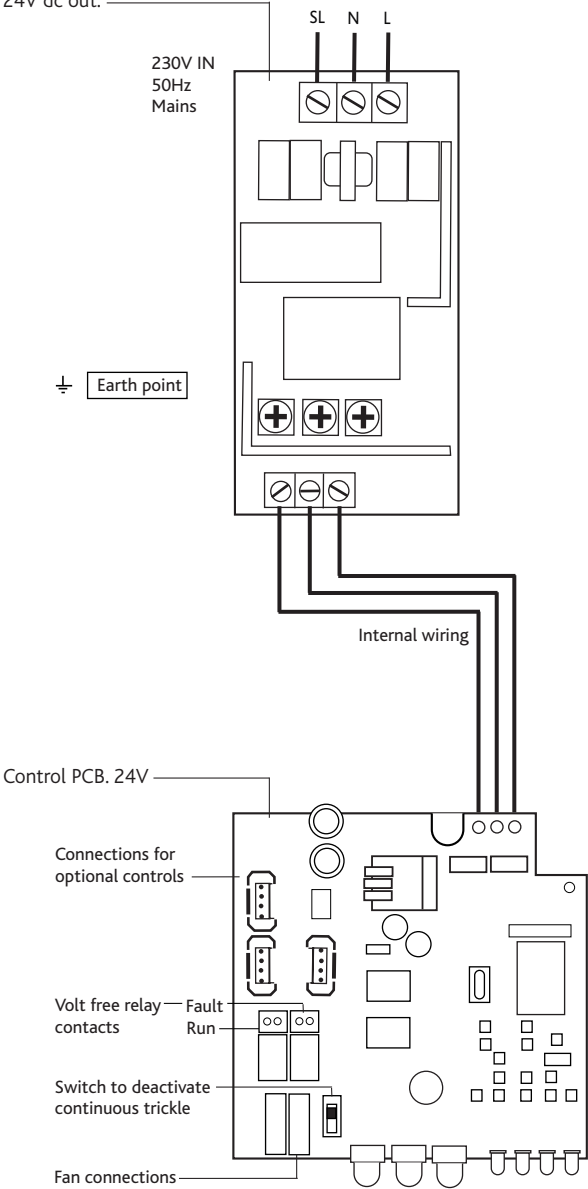
Voltage:	240V 1ph 50Hz
Consumption:	75W (max) 0.6 Amp
Fuse rating:	3 Amp

NOTE: This unit must be earthed.

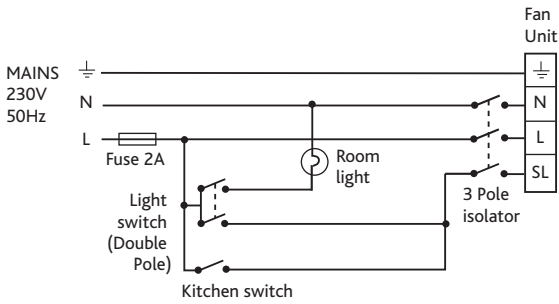


Detail of unit control on front panel.

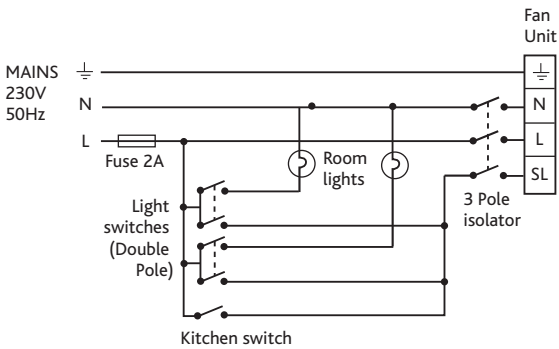
Power supply PCB. 230V in,  
24V dc out.



UNIT SERVING KITCHEN AND BATHROOM



UNIT SERVING KITCHEN AND TWO BATHROOMS



## CONSULTANTS SPECIFICATION

### OPERATION

The supply and extract system shall be wall/cupboard mounted in accordance with the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from all wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Switched live signal from light / remote switches
- Optional externally interconnected sensors

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

An adjustable run-on facility is integrated into the unit which allows the fans to run-on for between 1 and 60 minutes after the signals have been switched off.

The unit shall have the facility to commission the supply and extract fans via inbuilt minimum and maximum speed adjustment; the fans shall have infinitely variable speed control.

### MRXBOX95-WALL - UNIT SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 95%. The heat exchanger shall be protected by G2 grade filters on fresh air inlet and system extract. The heat exchanger and filters shall be accessible via the front access panel, enabling quick and easy maintenance.

The unit shall have low energy, high efficiency d.c. fan/motor assemblies with sealed for life bearings, the impellers shall be backward curved centrifugal type. The motors shall be suitable of an ambient temperature of 40°C.

The unit shall be supplied complete with an insulated condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 125mm circular ducting, D204 x 60mm.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

### OPTIONAL SUMMER BYPASS - MRXBOX95B-WALL

The bypass damper opens when a 230V signal is applied to the unit (via a manual switch, supplied). This opens the damper via an actuator. When the switch signal is de-activated the unit returns to its original state (air through the heat exchanger). Outside air supplied through the bypass is still filtered, so the air quality is optimal, irrespective of the bypass setting (Open or closed).

### MRXBOX95-WALL - CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer: -

- Integral speed control on supply and extract.
- Integral background ventilation control/set point.
- Integral boost ventilation control/set point.
- Integral run on timer.
- Fan failure indication.
- Integral S/L terminal for boost from remote switch, e.g. light switch.

### OPTIONAL CONTROLS

MRXBOX95-PIR Passive infra-red detector

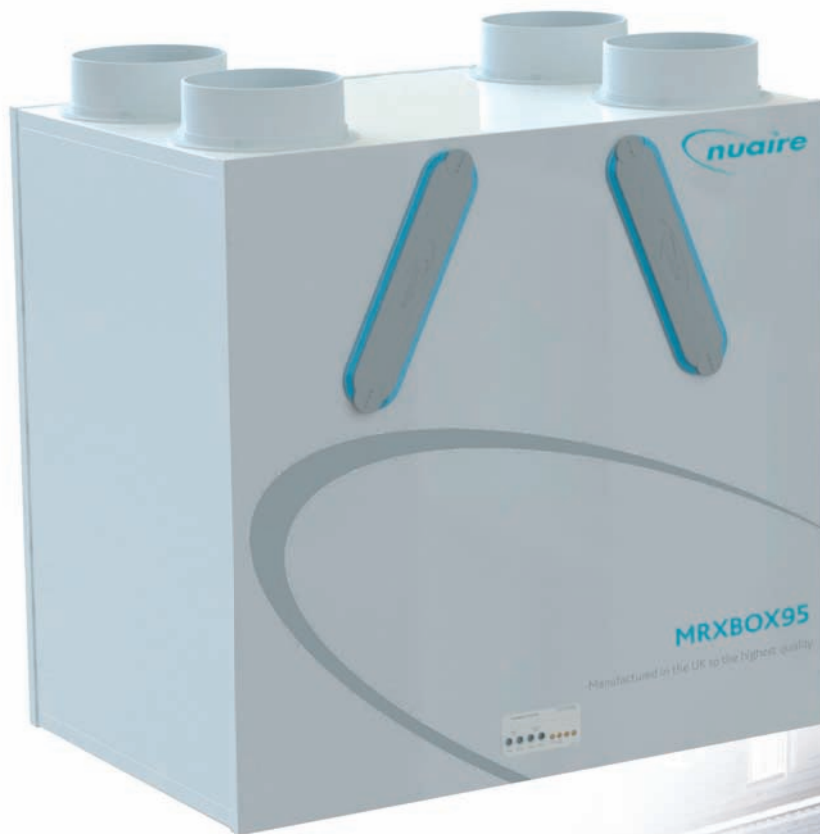
MRXBOX95-HUM Humidistat

MRXBOX95-RFI Remote fail indicator

Units shall be the MRXBOX95-WALL as manufactured by Nuaire.

## MRXBOX95-WH1 MECHANICAL VENTILATION WITH HEAT RECOVERY

UP TO 95% EFFICIENT, SAP APPENDIX Q RECOGNISED.  
WALL/CUPBOARD MOUNTING DESIGN FOR MEDIUM TO LARGE  
HOUSES & APARTMENTS.



## BENEFITS

**MRXBOX95-WH1** is designed to provide optimised balanced (supply & extract) mechanical ventilation with heat recovery. Tempered air is delivered into 'living' areas whilst extracting moisture laden air from 'wet' areas creating comfortable well ventilated homes. The unit has the facility to commission the supply & extract fans independently on both minimum and maximum speeds. The heat exchanger block can recover up to 95% of normally wasted heat.

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### OPTIMUM PERFORMANCE

Low Specific Fan power and high efficiency results in SAP Q.

### SUITABLE FOR LARGER APPLICATIONS

Designed to meet the duty for medium to large properties including 3 storey.

### COMPACT

The unit fits easily into cupboards not taking up valuable storage space.

### EXTREMELY LOW NOISE LEVELS

Quiet running unit ensuring occupant acceptability.

### ADDED SECURITY

Windows may be kept closed.

### IMPROVES INDOOR AIR QUALITY

High efficiency filters helps to create a healthy living environment.

### LOW & EASY MAINTENANCE

Easy accessible filters from front cover – no tools required. Filter replacement typically every 12 - 18 months.

### DESCREET RUN MONITOR

Records units operational time.

### INTEGRAL FROST PROTECTION

Protects the unit during extreme cold spells.

### OPTIONAL SUMMER BYPASS AVAILABLE

Provides cooling during warmer months.  
MRXBOX95B-WH1.

### PRE-COMMISSIONING FILTER PROTECTION

Filters are covered in a removable protective film to prevent clogged up filters prior to occupant handover.

### SIMPLE FAN CONTROLS

Independent controls for supply & extract for quick and easy commissioning.

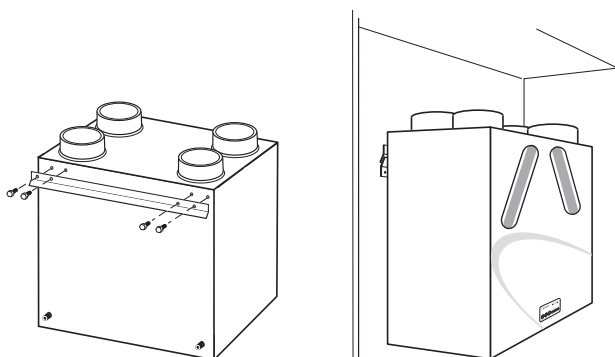
### NO REQUIREMENT FOR TRICKLEVENTS

Reduces noise from outside - overcome draught issues.

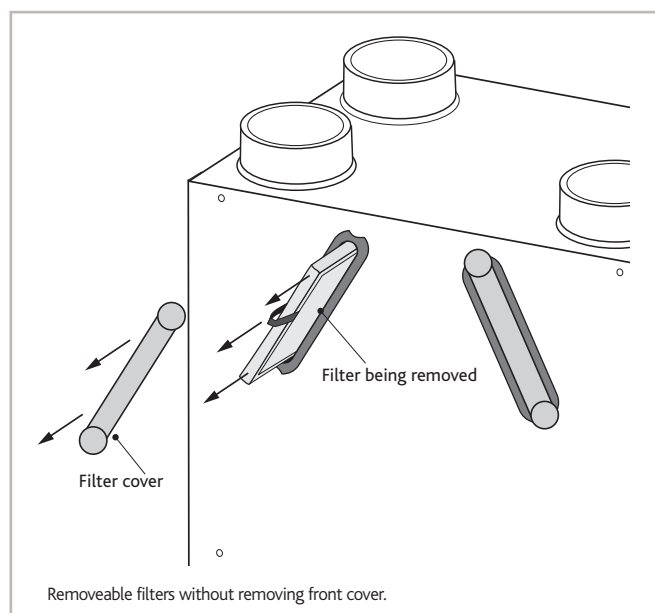
### 5 YEAR WARRANTY

5 year parts and 1 year labour warranty guarantee reduced life costs and peace of mind.

## INSTALLATION FEATURES

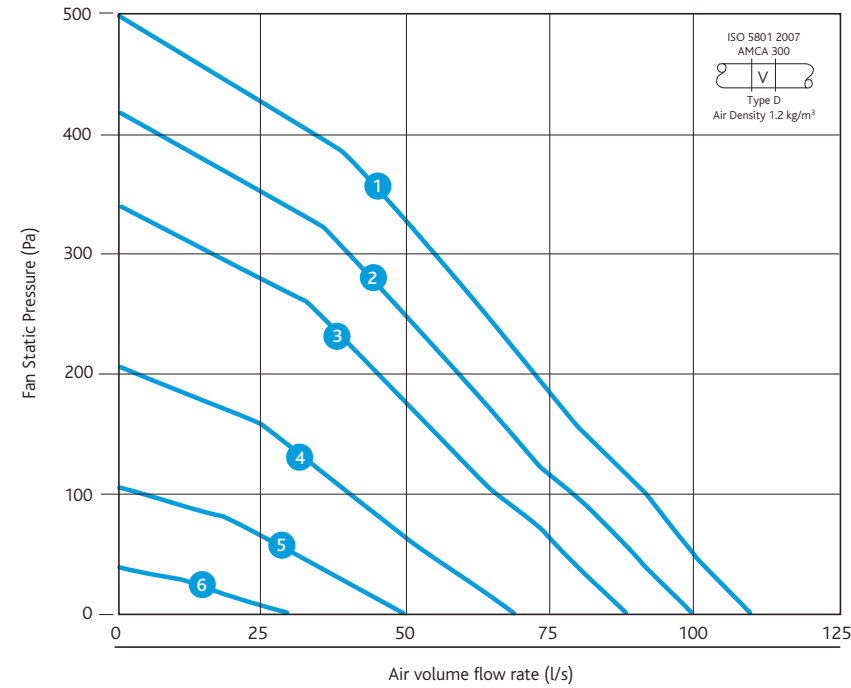


Typical cupboard installation of MRXBOX95-WH1.

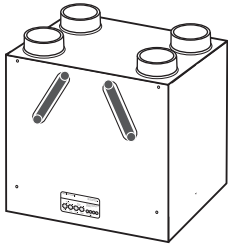


PERFORMANCE

MRXBOX95-WH1



Casing



Code description

MR-XBOX-95-WH1

- 1

2

3

4
1. Multi-room supply and extract heat recovery

2. Product range

3. Efficiency

4. Wall/cupboard application

5. H1 = High 1 Model

MRXBOX95-WH1

ELECTRICAL & SOUND											
Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW								dBA @3m
			63	125	250	500	1K	2K	4K	8K	
1	150	Open inlet	48	51	58	49	47	39	25	<16	31
		Open outlet	56	63	67	67	62	60	50	41	47
		Breakout	56	61	59	53	43	40	25	<16	33
2	114	Open inlet	48	50	57	48	45	37	23	<16	30
		Open outlet	56	62	66	66	60	58	48	39	45
		Breakout	56	60	58	52	41	38	23	<16	32
3	75	Open inlet	47	50	56	46	43	35	21	<16	29
		Open outlet	55	62	65	64	58	56	46	37	44
		Breakout	55	60	57	50	39	36	21	<16	31
4	36	Open inlet	46	48	53	43	37	29	<16	-	25
		Open outlet	54	60	62	61	52	50	40	31	40
		Breakout	54	58	54	47	33	30	<16	<16	28
5	14	Open Inlet	44	45	50	38	30	22	<16	<16	22
		Open outlet	52	57	59	56	45	43	33	24	35
		Breakout	52	55	51	42	26	23	<16	<16	24
6	8	Open inlet	41	42	44	30	19	<16	<16	<16	<16
		Open outlet	49	54	53	48	34	32	22	<16	27
		Breakout	49	52	45	34	<16	<16	<16	<16	19

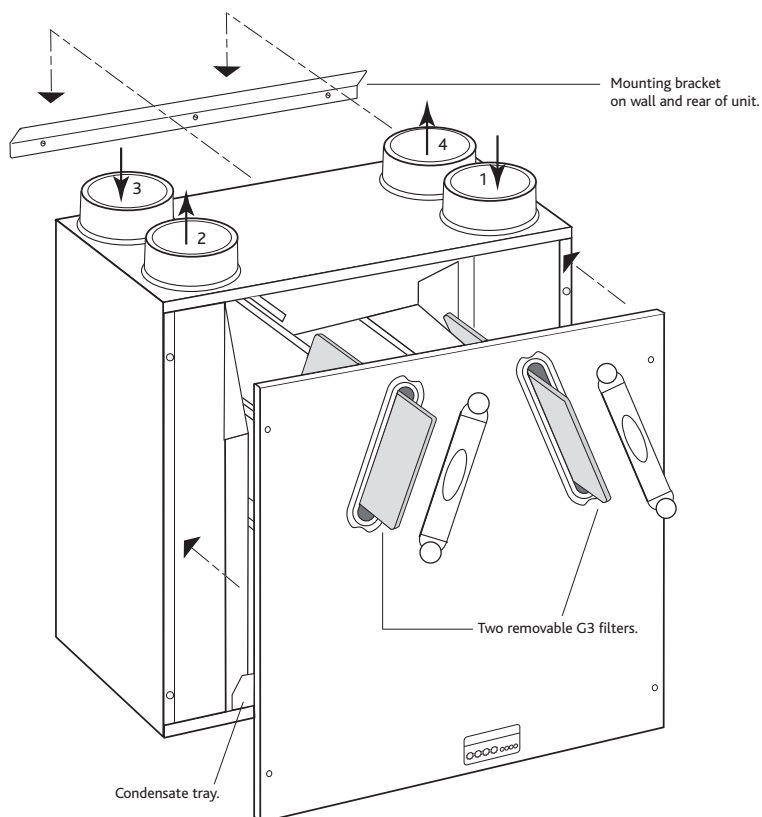
The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving based on SAP Appendix Q testing.

SAP APPENDIX Q TEST RESULTS

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Compliant
Kitchen Plus 1 wet room	0.41	91	Yes
Kitchen Plus 2 wet rooms	0.40	91	Yes
Kitchen Plus 3 wet rooms	0.46	90	Yes
Kitchen + 4 wet rooms	0.53	90	Yes

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Compliant
Kitchen + 5 wet rooms	0.62	89	Yes
Kitchen + 6 wet rooms	0.72	88	Yes
Kitchen + 7 wet rooms	0.83	87	Yes

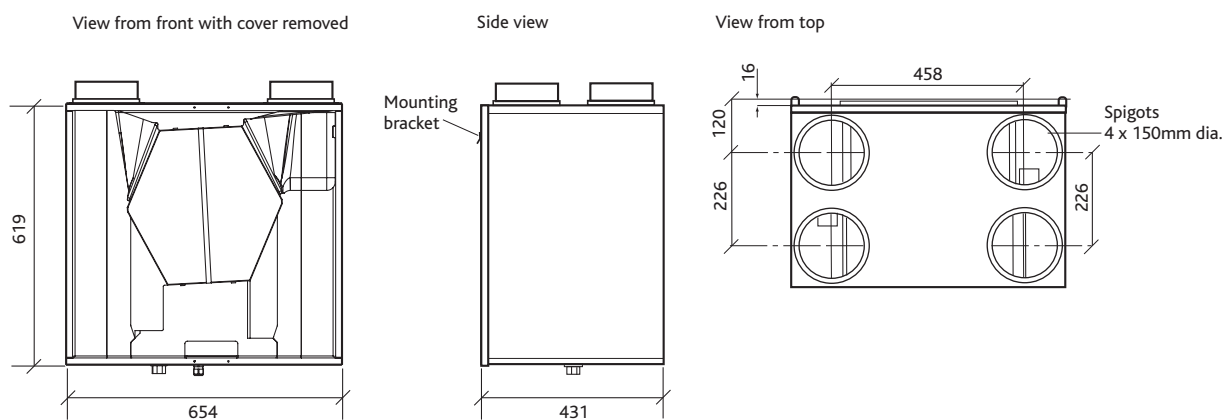
**GENERAL ARRANGEMENT**  
**MRXBOX95-WH1**



**Spigot Location and Ducting references**

- Spigot 1. 150mm dia. = extract air from dwelling.
- Spigot 2. 150mm dia. = exhaust air to outside.
- Spigot 3. 150mm dia. = intake air from outside.
- Spigot 4. 150mm dia. = supply air to house.

**MRXBOX95-WH1 - DIMENSIONS (mm)**



ELECTRICAL CONNECTION

Please note: the electrical connection of the unit must be carried out by a qualified electrician.

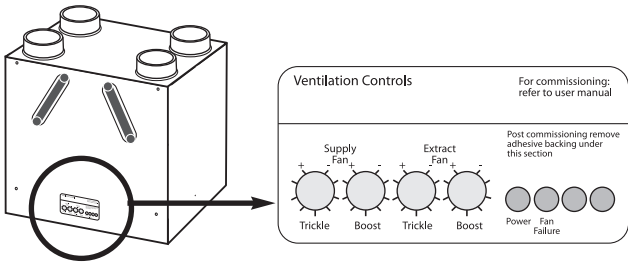
The unit is supplied with a flexible cord for connection to the mains supply.

Electrical details:-

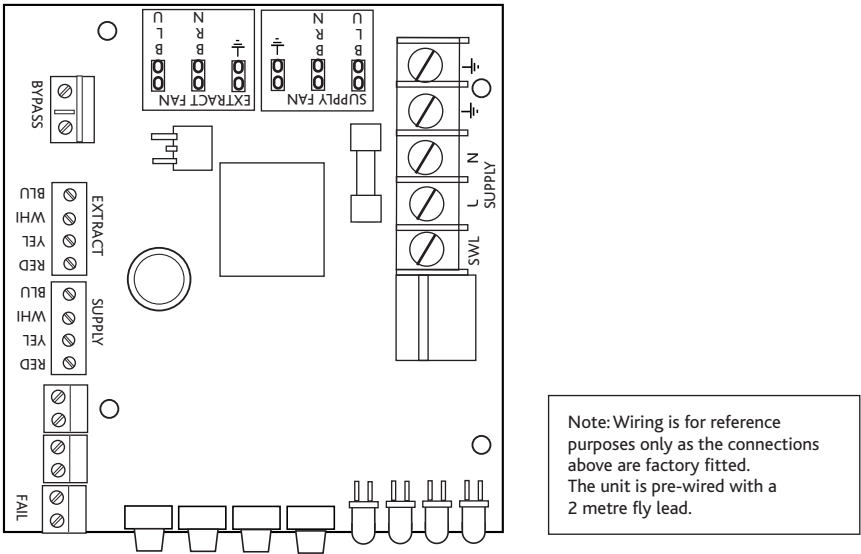
Voltage:	240V 1ph 50Hz
Consumption:	WH1 - 1.3 Amp
Fuse rating:	3 Amp

NOTE: This unit must be earthed.

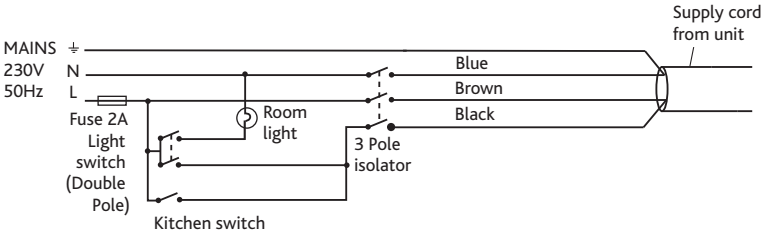
The mains power supply cable should be connected to a fixed wiring installation, via a fused isolator, in accordance with current IEE wiring regulations.



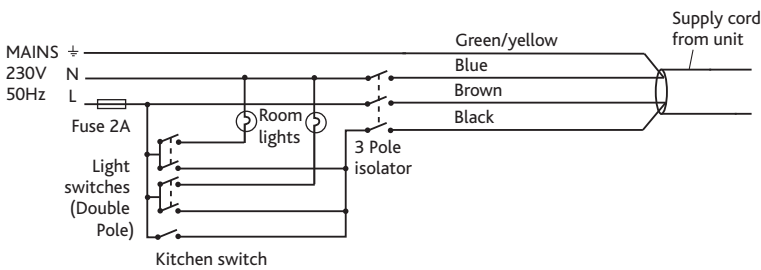
Detail of unit control on front panel.  
Tamper proof label following commissioning.



UNIT SERVING KITCHEN AND BATHROOM



UNIT SERVING KITCHEN AND TWO BATHROOMS



## CONSULTANTS SPECIFICATION

### OPERATION

The supply and extract ventilation unit shall be positioned as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from the wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element. The extracted air shall also be filtered before it reaches the heat exchanger block.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Switched live signal from light / remote switches.

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

The unit shall have the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation), and boost speed, via inbuilt minimum and maximum speed adjustment. The fans shall have infinitely variable speed control.

### SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 95%. The heat exchanger shall be protected by G3 grade filters on fresh air inlet and system extract.

The heat exchanger and filters shall be accessible via the front access panel, enabling quick and easy maintenance.

The unit shall have low energy, high efficiency EC fan/motor assemblies with sealed for life bearings, the impellers shall be backward curved centrifugal type. The motors shall be suitable of an ambient temperature of 40°C.

The unit shall be supplied complete with a condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 150mm diameter circular ducting.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

Units shall be MRXBOX95-WH1 as manufactured by Nuaire.

### OPTIONAL SUMMER BYPASS - MRXBOX95B-WH1

The bypass opens automatically when outside temperature exceeds 20°C.

This opens the damper via an actuator. Outside air supplied through the bypass is still filtered, so the air quality is optimal, irrespective of the bypass setting (open or closed).

### CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer:

- Independent control of background supply and extract flow rates.
- Independent control of boost speed supply and extract flow rates.
- Integral fan failure indication.
- Integral S/L terminal for boost from remote switch, e.g. light switch.
- Integral heat exchanger frost protection.
- Discreet daily run monitor.

### OPTIONAL CONTROLS

MRXBOX95WH-RFI Remote fail indicator.

The unit shall be offered with a 5 year warranty.

The manufacturer's recommendations should be observed at all times.

The unit shall be the MRXBOX95-WH1 and shall be manufactured by Nuaire.

MRXBOX95-LOFT MECHANICAL SUPPLY & EXTRACT WITH HEAT RECOVERY

UP TO 95% EFFICIENT, SAP APPENDIX Q RECOGNISED.  
LOFT MOUNTING DESIGN FOR SMALL TO MEDIUM HOUSES



## BENEFITS

**MRXBOX95-LOFT** is designed to provide optimised balanced (supply and extract) mechanical ventilation with heat recovery. Tempered air is delivered into 'living' areas whilst extracting moisture laden air from 'wet' areas, creating comfortable well ventilated homes. MRXBOX95-LOFT uses the latest generation of low voltage DC fans and motors, counter flow heat exchanger and easy accessible controls. The heat exchanger block can recover up to 95% of the normally wasted heat. The two independent fans has full speed control for background and boost ventilation rates as well as a run-on timer facility.

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### HIGH EFFICIENCY

Heat exchanger is up to 95% efficient.

### EASY INSTALLATION

Compact, lightweight and simple to install.

### OPTIONAL SUMMER BYPASS AVAILABLE

Provides cooling during warmer months.  
 MRXBOX95B-LOFT.

### NO NEED FOR TRICKLE VENTS

A cost saving and tenant acceptability.

### IMPROVES INDOOR AIR QUALITY

Prevents condensation by keeping moisture levels low - creating a healthier environment.

### LOW MAINTENANCE REQUIREMENT

Filter replacement typically every 5 years.

### EXTREMELY LOW NOISE LEVELS

Quiet running unit ensuring occupant acceptability.

### FREE OF CHARGE CODE ADVISORY SERVICE

Takes the stress out of specifying.

### FLEXIBLE SOLUTION

MRXBOX95-LOFT ensures a flexible solution with four 125mm dia. and four optional 150mm dia. spigots.

### WIDE CHOICE

Range of ducting and grilles available, please contact Nuaire.

### 5 YEAR WARRANTY

5 year parts and 1 year labour warranty guarantee reduced life costs and peace of mind.

### OPTIONAL SENSORS AND DETECTORS

Customise MRXBOX95-LOFT for enhanced performance. All supplied with pre-plugged 10m data cable and incorporates status LED.

#### MRXBOX95-PIR (passive infra red)

A low voltage sensor, detects movement and activates system. Incorporates overrun timer and timer adjustments.



#### MRXBOX95-HUM

A low voltage sensor, activates the system when the RH level is above set point. Incorporates overrun timer and RH setpoint level adjustment.

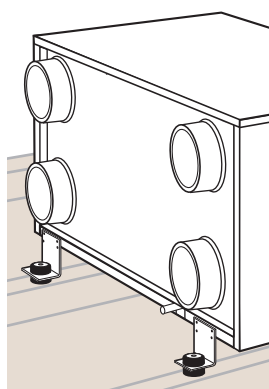


#### MRXBOX95-RFI

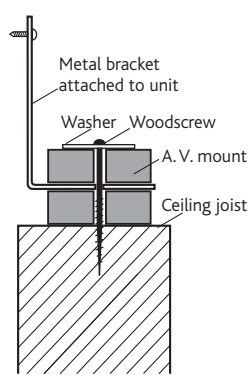
If fan failure occurs the audio visual indicator will flash a warning.



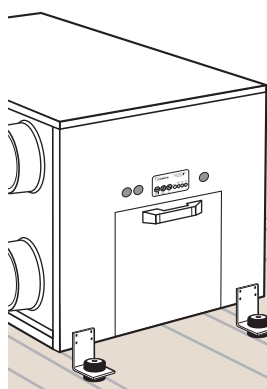
### FLEXIBLE LOFT MOUNTING OPTIONS



Option 1. Mounted on roof joists using four "L" shape metal brackets and AV mounts on long sides of unit.

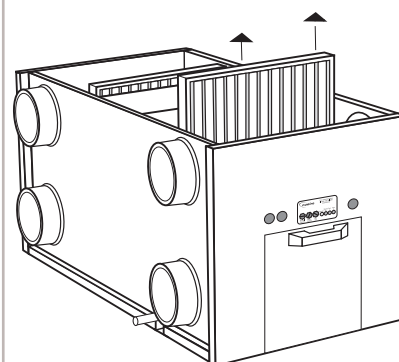


Side view example of an 'L' shaped fixing bracket and AV mount attached to ceiling joist.



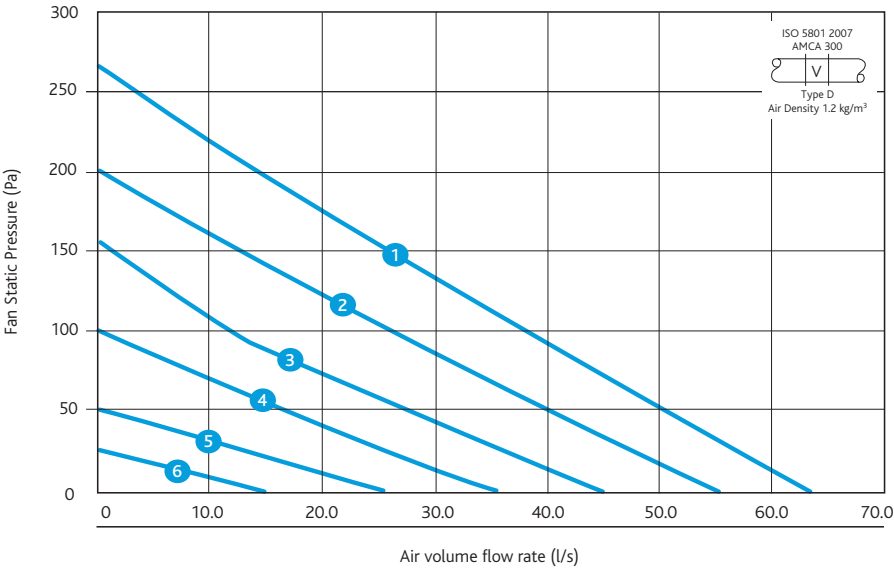
Option 2. Mounted on roof joists using four "L" shape metal brackets and AV mounts on short sides of unit.

### REMOVABLE G4 FILTERS

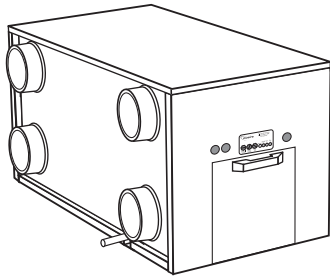


PERFORMANCE - MRXBOX95-LOFT

MRXBOX95-LOFT



Casing



Code descriptions

MR-XBOX95-LOFT

- 1

2

3

4
1. Multi-room supply and extract heat recovery

2. Product range

3. Efficiency

4. Loft application

SAP APPENDIX Q TEST RESULTS

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Performance Compliant
Kitchen Plus 1 wet room	0.69	92	Yes
Kitchen Plus 2 wet rooms	0.76	92	Yes
Kitchen Plus 3 wet rooms	0.85	90	Yes

MRXBOX95-LOFT

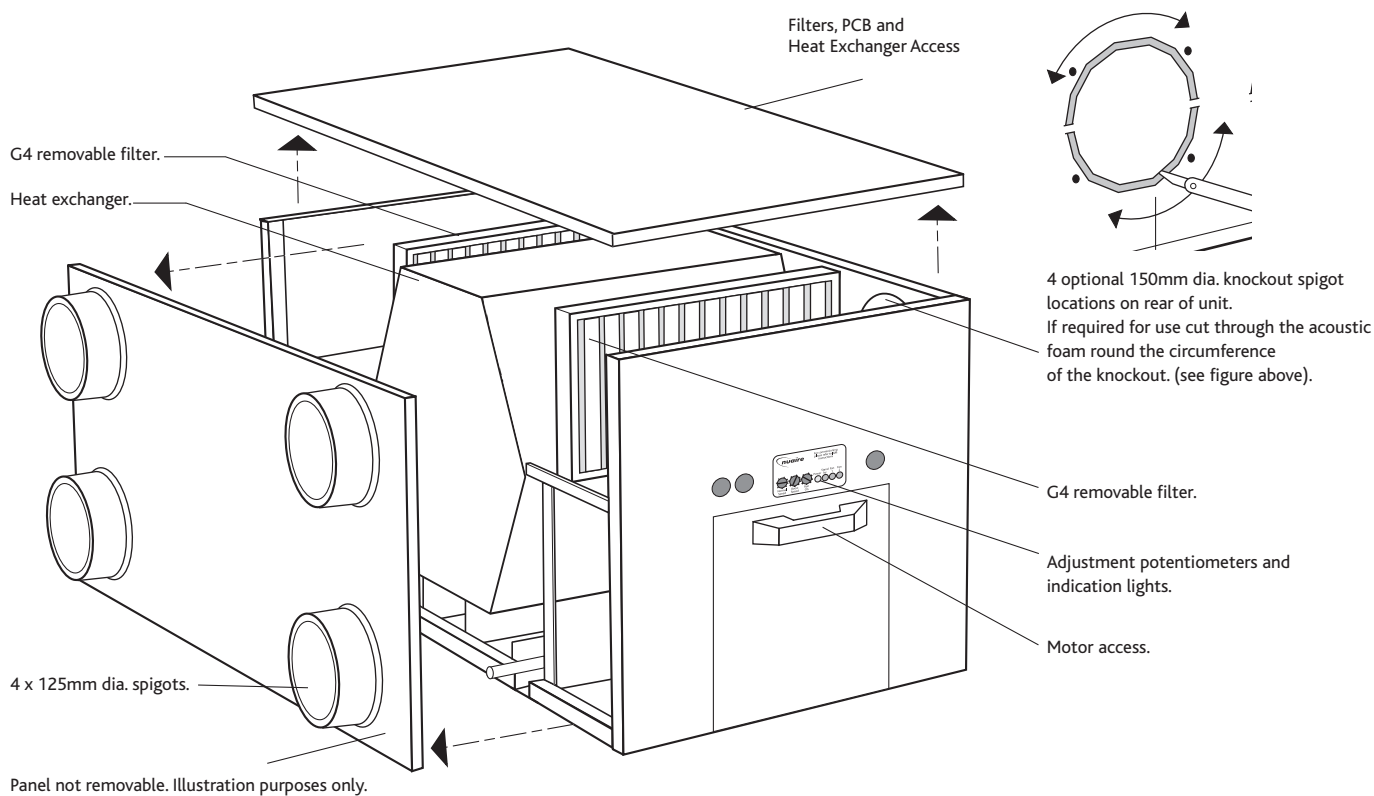
ELECTRICAL & SOUND

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW								dBA @3m
			63	125	250	500	1K	2K	4K	8K	
1	73	Open inlet	38	42	48	43	42	32	29	29	28
		Open outlet	40	56	56	59	54	51	45	34	42
		Breakout	43	55	53	51	43	42	36	31	34
2	51	Open Inlet	37	41	46	41	38	28	25	25	25
		Open outlet	39	55	54	57	50	47	41	30	39
		Breakout	42	54	51	49	39	38	32	27	32
3	31	Open inlet	34	40	43	35	37	28	22	19	23
		Open outlet	38	49	51	52	48	43	35	30	35
		Breakout	38	48	48	44	37	34	26	27	27
4	20	Open inlet	33	38	44	32	32	23	17	14	20
		Open outlet	37	48	49	49	43	38	30	25	32
		Breakout	37	46	46	41	32	29	21	22	24
5	12	Open inlet	30	34	38	23	19	10	4	-	13
		Open outlet	34	44	43	40	30	25	17	12	22
		Breakout	34	42	40	42	19	16	8	9	22
6	7	Open inlet	28	32	32	20	14	5	-	-	<10
		Open outlet	32	41	40	37	25	20	12	7	19
		Breakout	32	40	37	29	14	11	3	4	<10

Hemispherical Free field dBA

The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving and based on SAP Appendix Q testing.

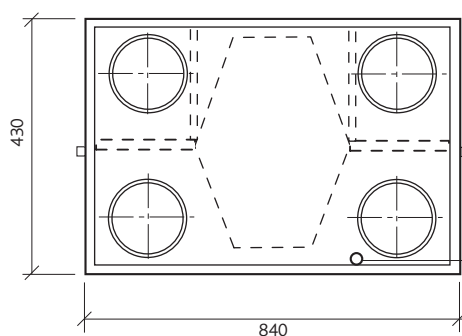
## UNIT COMPONENTS



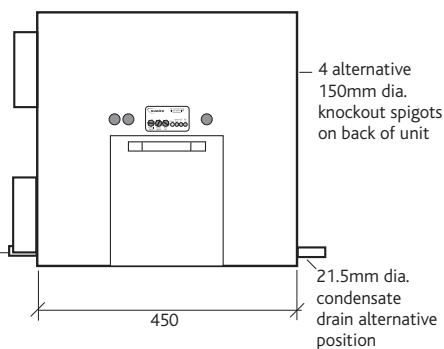
## DIMENSIONS (MM)

Weight 21 Kg

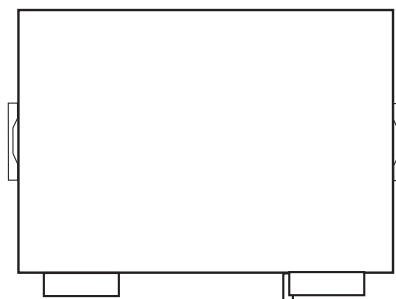
View from front 4 X 125mm spigots



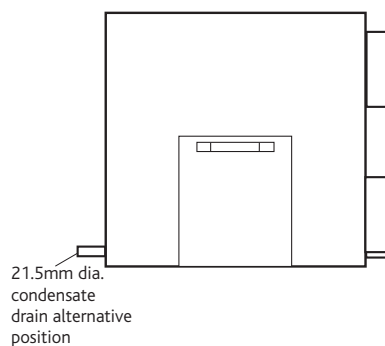
Side view (controls)



View from top

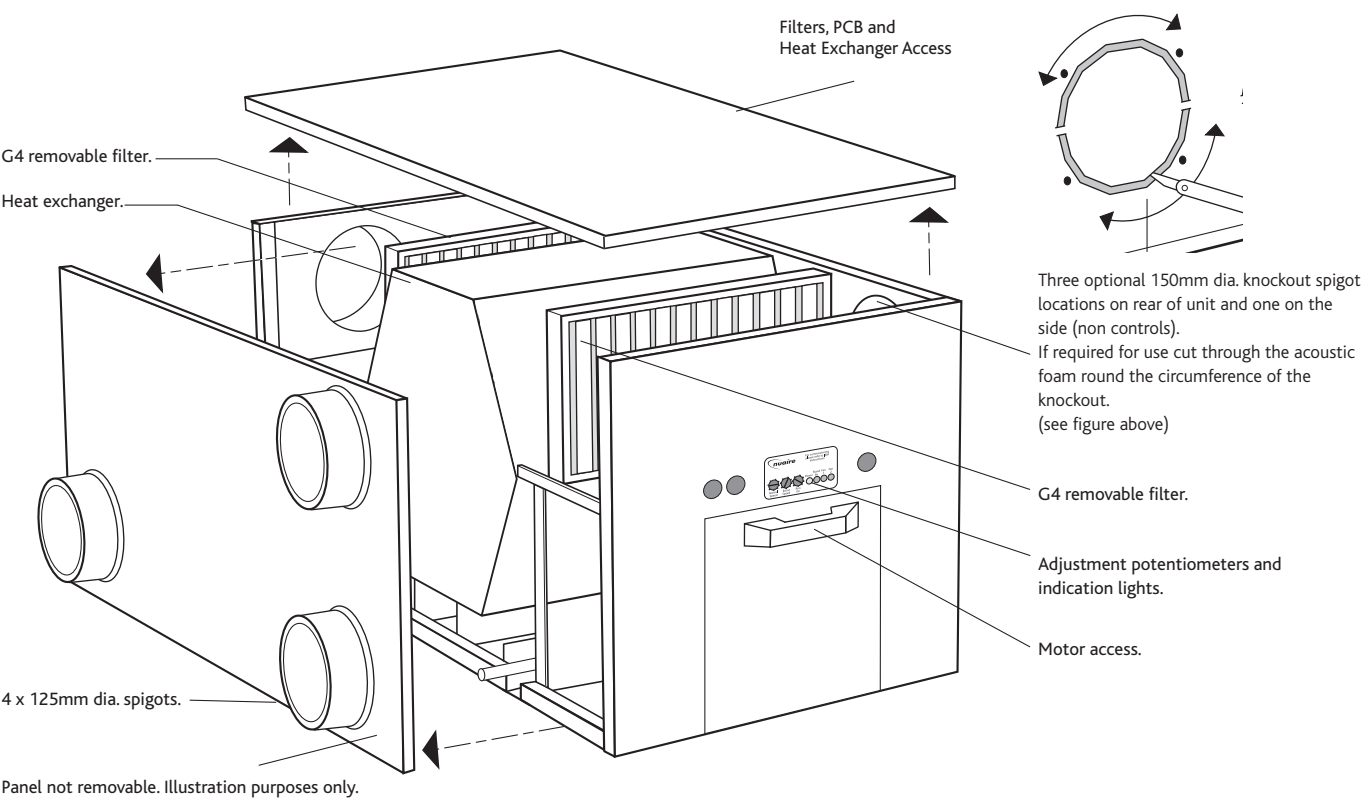


Side view (non controls)



GENERAL ARRANGEMENT

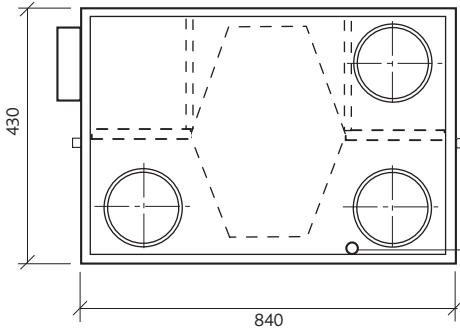
OPTIONAL SUMMER BYPASS - MRXBOX95B-LOFT



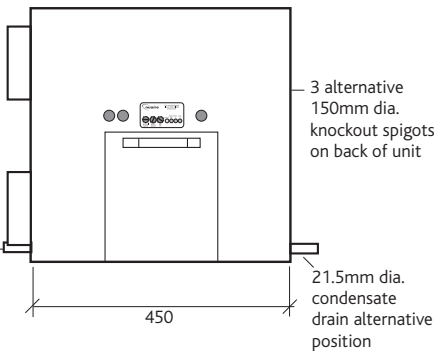
DIMENSIONS (MM)

Weight 21 Kg

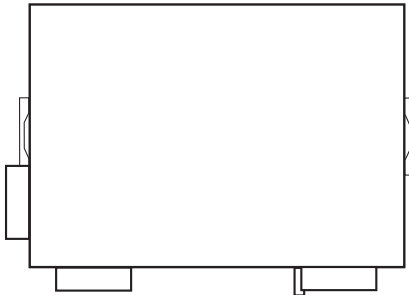
View from front 3 X 125mm spigots



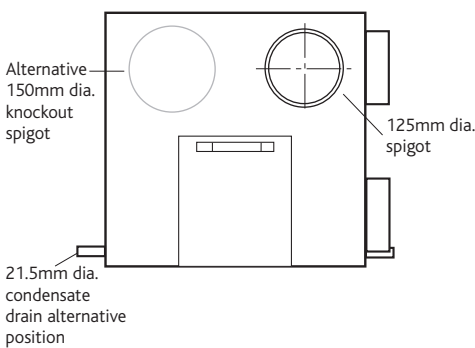
Side view (controls)



View from top



Side view (non controls)



## ELECTRICAL CONNECTION

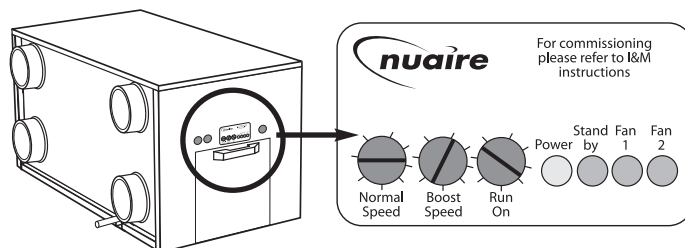
Please note: the electrical connection of the unit must be carried out by a qualified electrician.

### Electrical details:-

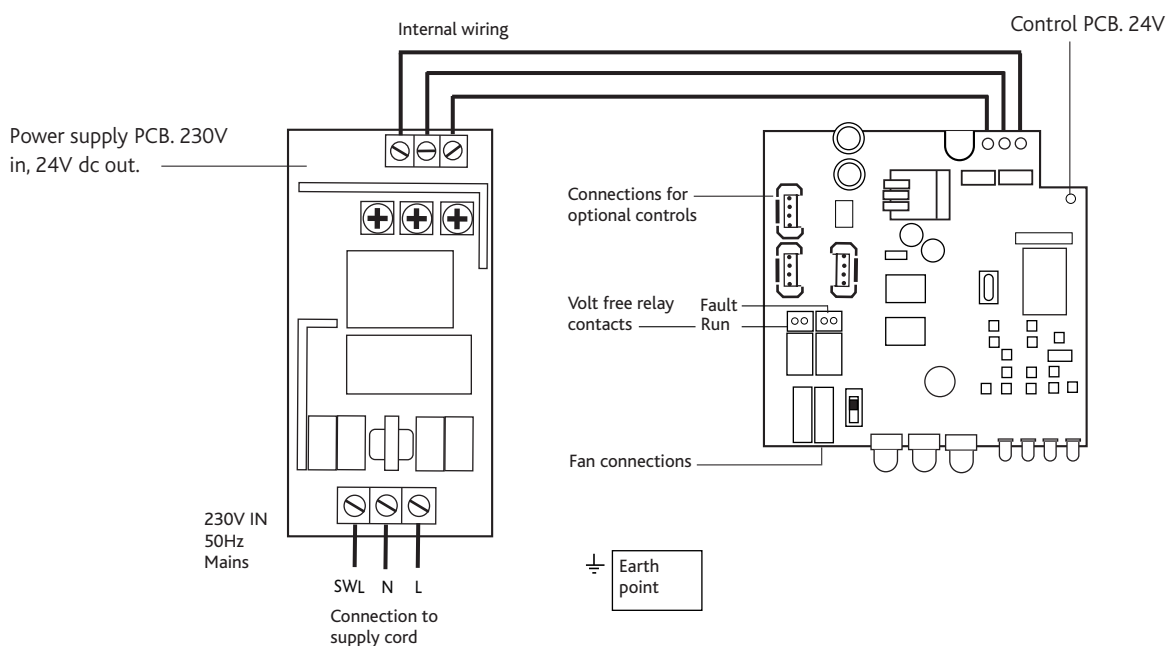
<b>Voltage:</b>	240V 1ph 50Hz
<b>Consumption:</b>	75W (max) 0.6 Amp
<b>Fuse rating:</b>	3 Amp

NOTE: This unit must be earthed.

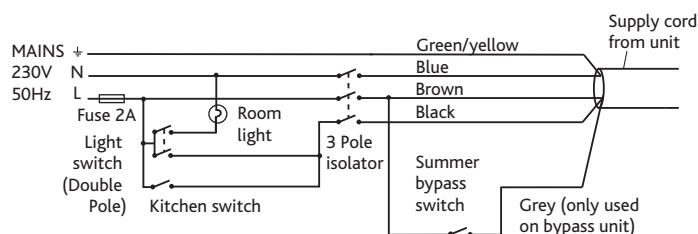
The three core cable from the mains power supply should be connected to a fixed wiring installation, via a fused isolator, in accordance with current IEE wiring regulations.



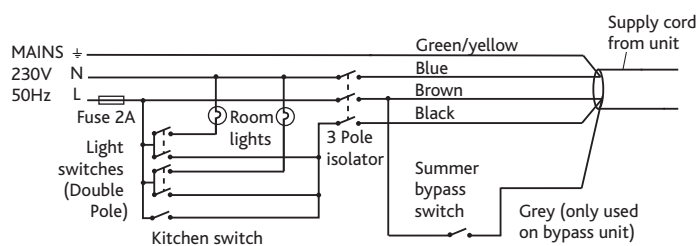
Detail of unit control on side panel.



## UNIT SERVING KITCHEN AND BATHROOM



## UNIT SERVING KITCHEN AND TWO BATHROOMS



CONSULTANTS SPECIFICATION

OPERATION

The supply and extract system shall be positioned in the loft space in accordance with the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from all wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Switched live signal from light / remote switches
- Optional externally interconnected sensors

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

An adjustable run-on facility is integrated into the unit which allows the fans to run-on for between 1 and 60 minutes after the signals have been switched off.

The unit shall have the facility to commission the supply and extract fans via inbuilt minimum and maximum speed adjustment; the fans shall have infinitely variable speed control.

MRXBOX95-LOFT - UNIT SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 95%. The heat exchanger shall be protected by G4 grade filters on fresh air inlet and system extract. The heat exchanger and filters shall be accessible via the top access panel, enabling quick and easy maintenance.

The unit shall have low energy, high efficiency DC fan/motor assemblies with sealed for life bearings, the impellers shall be backward curved centrifugal type. The motors shall be suitable of an ambient temperature of 40°C.

The unit shall be supplied complete with an insulated condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 150mm or 125mm circular ducting.

Anti-vibration mounts are supplied with each unit to prevent vibration being transmitted to the ceiling timbers.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

OPTIONAL SUMMER BYPASS - MRXBOX95B-LOFT

The summer bypass facility during the warmer months can reduce the temperature in a room by a few degrees, whilst still ventilating that room effectively. The bypass damper opens when a 230V switch signal is applied to the unit. (via a manual switch) This opens the damper via a wax actuator. When the switch signal is de-activated the unit returns to its original state (air through the heat exchanger).

MRXBOX95-LOFT - CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer: -

- Integral speed control on supply and extract.
- Integral background ventilation control/set point.
- Integral boost ventilation control/set point.
- Integral run on timer.
- Fan failure indication.
- Integral S/L terminal for boost from remote switch, e.g. light switch.

OPTIONAL CONTROLS

- MRXBOX95-PIR Passive infra-red detector
- MRXBOX95-HUM Humidistat
- MRXBOX95-RFI Remote fail indicator
- Units shall be the MRXBOX95-LOFT as manufactured by Nuaire.

# Breathe easy with a CPS qualification from Nuaire



**From 1st October 2010  
domestic ventilation became  
'notifiable work' as part of Approved  
Document Part F 2010 (ADF) so it is vital that  
installers are properly trained and qualified.**

As part of our commitment to installers, engineers and customers, Nuaire now offers accredited ventilation installer training at our BPEC accredited training facility.

**If you are an installer**

- learn new skills and increase your qualifications
- increase the scope of work you can offer to your customers
- be able to confidently install, inspect and commission domestic ventilation
- minimise costs for you and your customers

**If you are an RSL, housebuilder or developer**

and subcontract installation work, recommend this course to your installers to:

- ensure that all your installations are completed by qualified staff
- promote sustainability, using local labour and enhance local skills with your preferred suppliers

Contact your local sales representative to find out more and arrange this training. Alternatively contact our training facility on

02920 858463, e-mail [cps@nuaire.co.uk](mailto:cps@nuaire.co.uk) or visit [www.nuaire.co.uk/cps](http://www.nuaire.co.uk/cps)

Why not benefit from  
Competent Persons  
Scheme (CPS) training  
at Nuaire's BPEC  
approved facility?

## MRXBOX95-LH1 MECHANICAL SUPPLY & EXTRACT WITH HEAT RECOVERY

UP TO 95% EFFICIENT, SAP APPENDIX Q RECOGNISED.  
LOFT MOUNTING DESIGN FOR MEDIUM TO LARGE HOUSES.



## BENEFITS

MRXBOX95-LH1 is designed to provide optimised balanced (supply and extract) mechanical ventilation with heat recovery. Tempered air is delivered into 'living' areas whilst extracting moisture laden air from 'wet' areas, creating comfortable well ventilated homes. The unit has the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation), boost control will control both fans to the same volume. The heat exchanger block can recover up to 95% of the normally wasted heat.

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### VERY HIGH EFFICIENCY

To meet customer requirements on SAP scores ensuring the reduction in emissions needed for code level 3 and above (25% reduction).

### LOW MAINTENANCE

High quality components such as filters and EC motors ensure lowest possible maintenance and long life motors. Filter replacement typically every 5 years.

### LOW POWER CONSUMPTION

Reducing operating and the life cycle costs.

### COMPACT

Dedicated design ensured the most compact size for duty on the market. The loft versions are specifically designed to go through the smallest loft hatches.

### LIGHTWEIGHT

A one man lift for ease of install.

### EXTREMELY LOW NOISE LEVELS

Quiet running unit, ensuring occupant acceptability.

### CREATES A HEALTHIER ENVIRONMENT

High efficiency filters removes up to 95% of dust particles.

### DESCREET RUN MONITOR

Records units operational time.

### EASY TO USE

Well located controls for simple installation, commissioning and use.

### OPTIONAL SUMMER BYPASS AVAILABLE

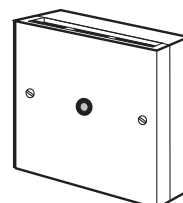
Provides cooling during warmer months.  
MRXBOX95B-LH1.

### 5 YEAR WARRANTY

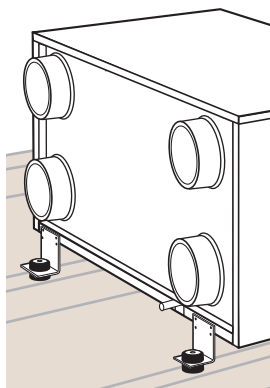
5 year parts and 1 year labour warranty guarantee reduced life costs and peace of mind.

### OPTIONAL REMOTE FAIL INDICATOR

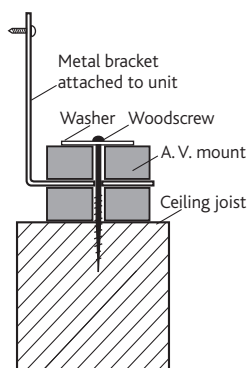
MRXBOX95LH-RFI is connected to the fan unit via low voltage wiring.



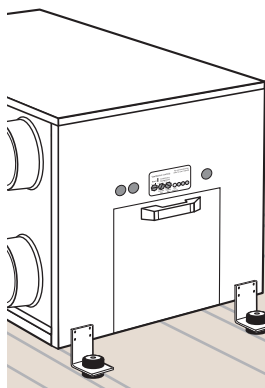
### FLEXIBLE LOFT MOUNTING OPTIONS



Option 1. Mounted on roof joists using four "L" shape metal brackets and AV mounts on long sides of unit.

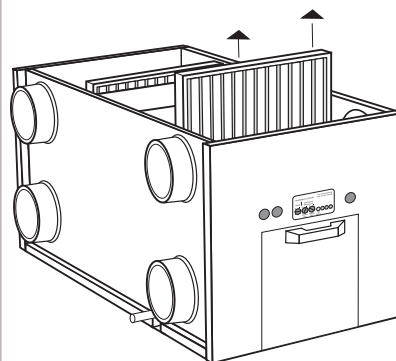


Side view example of an 'L' shaped fixing bracket and AV mount attached to ceiling joist.



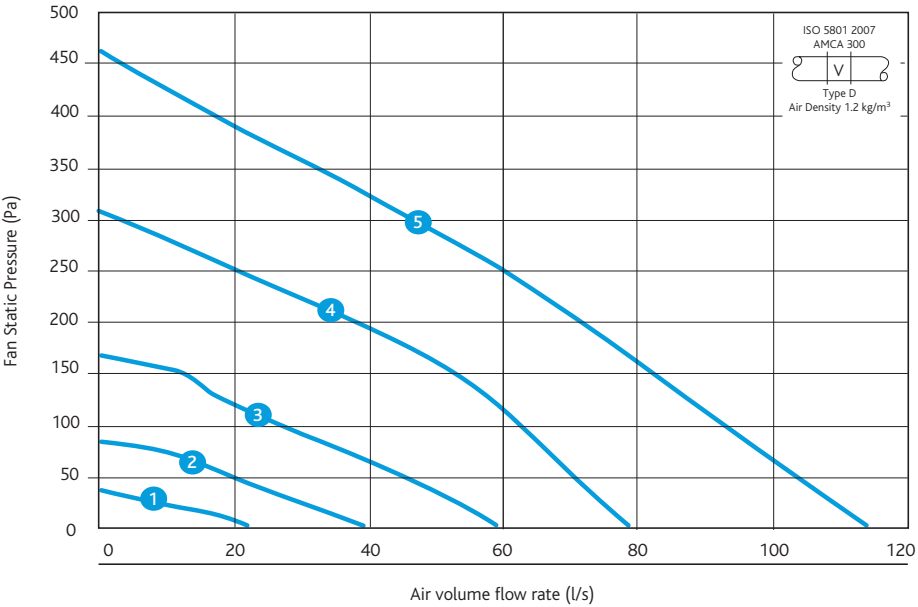
Option 2. Mounted on roof joists using four "L" shape metal brackets and AV mounts on short sides of unit.

### REMOVABLE G4 FILTERS

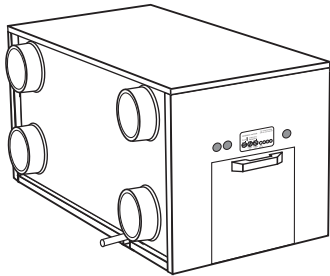


PERFORMANCE - MRXBOX95-LH1

MRXBOX95-LH1



Casing



Code descriptions

MR-XBOX95-LH1

1 2 3 4 5

- 1. Multi-room supply and extract heat recovery
- 2. Product range
- 3. Efficiency
- 4. Loft application
- 5. H1 = High 1 Model

SAP APPENDIX Q TEST RESULTS

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Performance Compliant
Kitchen Plus 1 wet room	0.61	91	Yes
Kitchen Plus 2 wet rooms	0.59	91	Yes
Kitchen Plus 3 wet rooms	0.62	91	Yes
Kitchen Plus 4 wet room	0.71	91	Yes
Kitchen Plus 5 wet rooms	0.78	91	Yes
Kitchen Plus 6 wet rooms	0.92	90	Yes

MRXBOX95-LH1

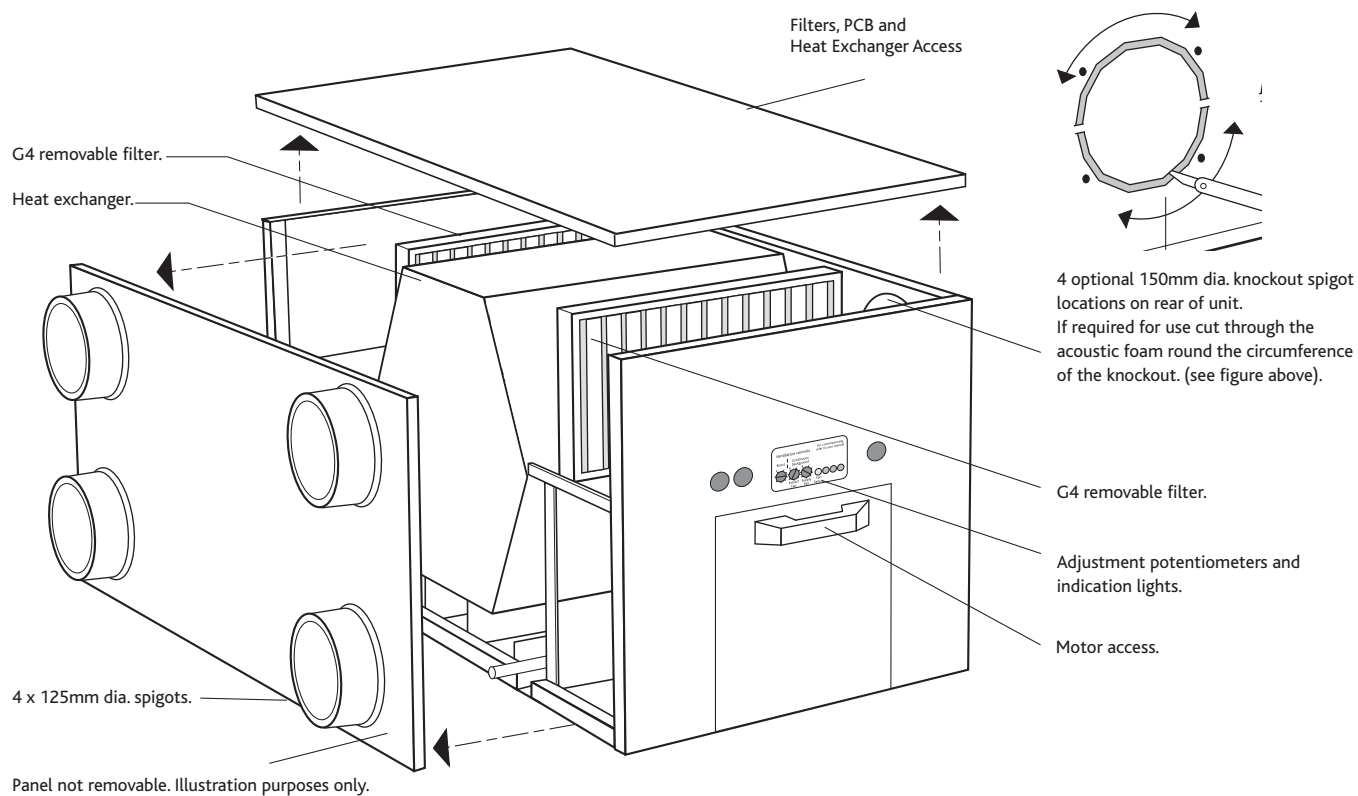
ELECTRICAL & SOUND

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW								dBA @3m
			63	125	250	500	1K	2K	4K	8K	
1	11	Open inlet	36	34	34	26	24	20	11	4	11
		Open outlet	37	38	38	37	30	24	21	8	16
		Breakout	37	47	38	34	20	16	7	6	14
2	20	Open inlet	38	35	41	29	27	23	12	12	14
		Open outlet	43	47	47	46	39	37	30	23	25
		Breakout	41	47	47	42	29	31	22	21	22
3	44	Open inlet	42	38	50	38	34	28	17	17	25
		Open outlet	43	52	55	56	49	49	40	33	38
		Breakout	43	51	52	48	38	40	31	30	28
4	90	Open inlet	43	42	55	44	42	35	22	22	32
		Open outlet	48	56	64	64	58	58	50	40	47
		Breakout	45	53	55	52	44	46	37	36	35
5	160	Open inlet	45	44	57	50	48	40	27	27	35
		Open outlet	51	58	67	69	67	63	55	46	53
		Breakout	47	56	58	57	52	54	45	44	41

Hemispherical Free field dBA

The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving and based on SAP Appendix Q testing.

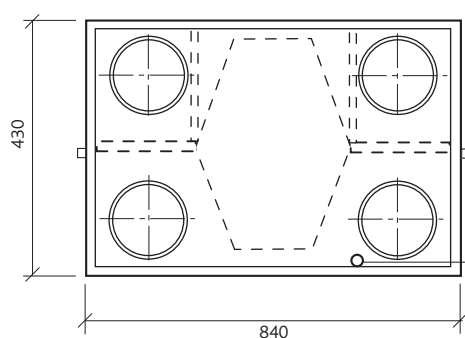
## UNIT COMPONENTS



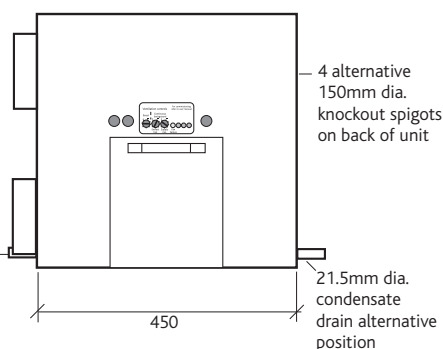
## DIMENSIONS (MM)

Weight 21 Kg

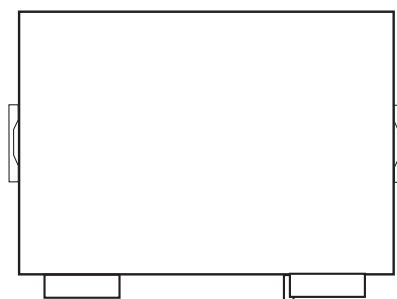
View from front 4 X 125mm spigots



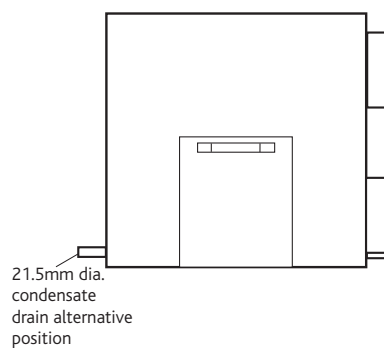
Side view (controls)



View from top

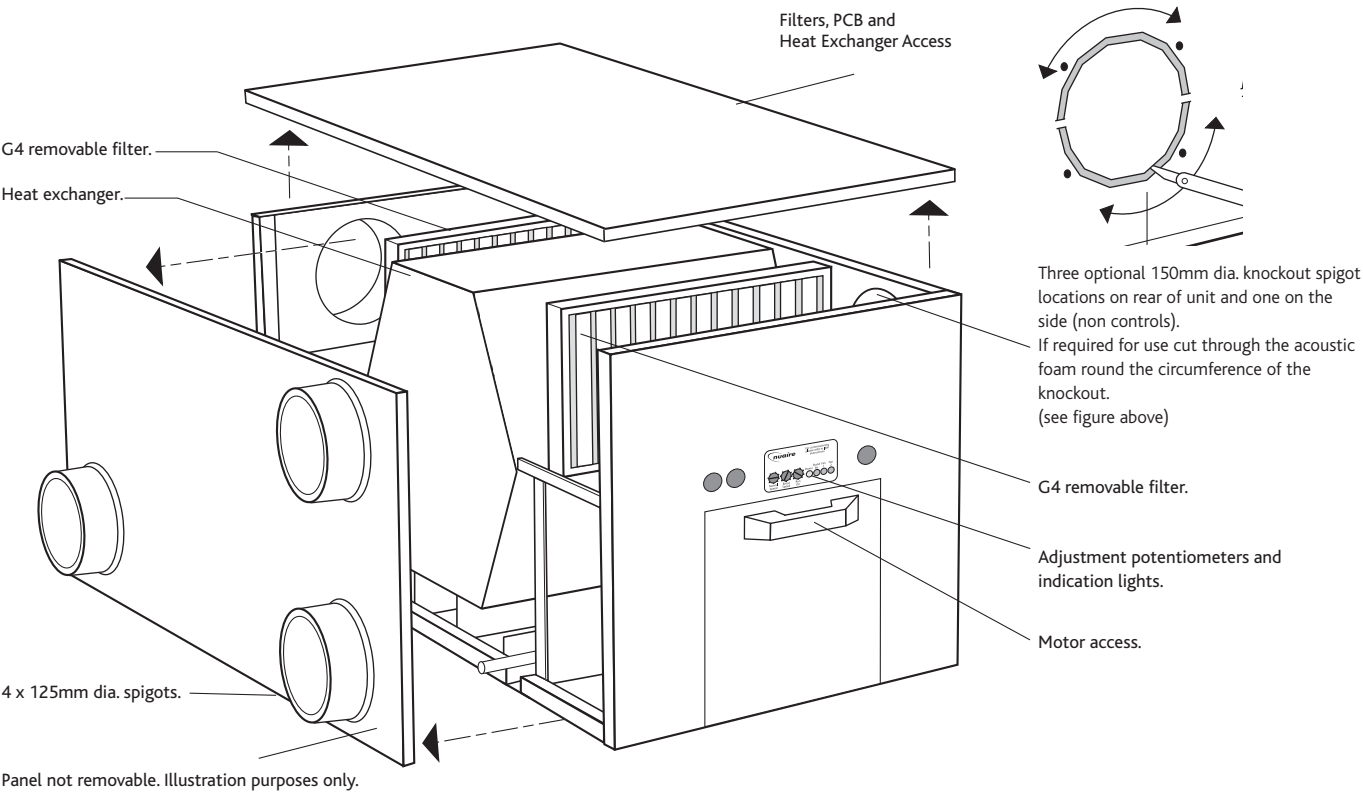


Side view (non controls)



GENERAL ARRANGEMENT

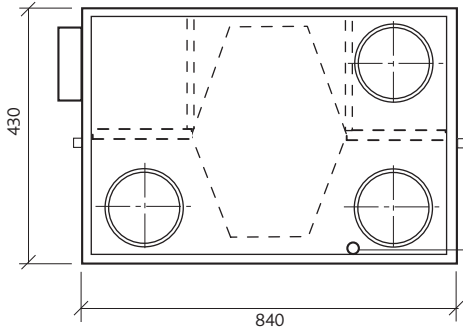
OPTIONAL SUMMER BYPASS - MRXBOX95B-LH1



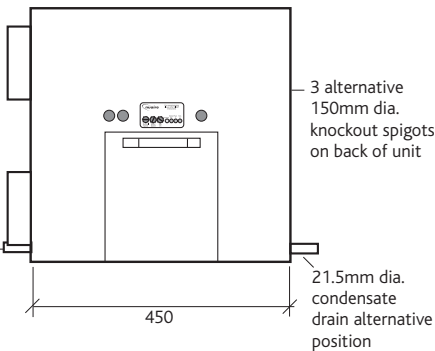
DIMENSIONS (MM)

Weight 21 Kg

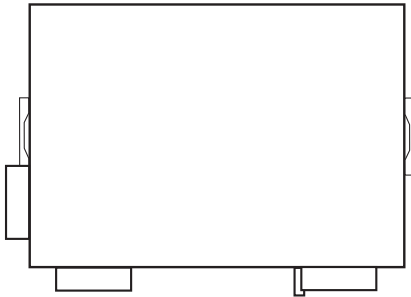
View from front 3 X 125mm spigots



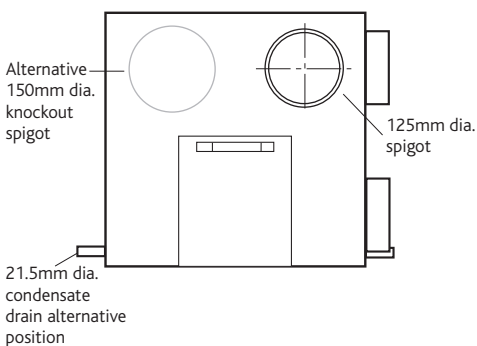
Side view (controls)



View from top



Side view (non controls)



## ELECTRICAL CONNECTION

Please note: the electrical connection of the unit must be carried out by a qualified electrician.

### Electrical details:-

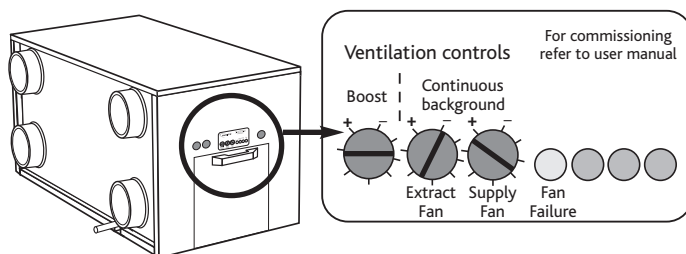
**Voltage:** 240V 1ph 50Hz

**Consumption:** LH1 - 1.3 Amp

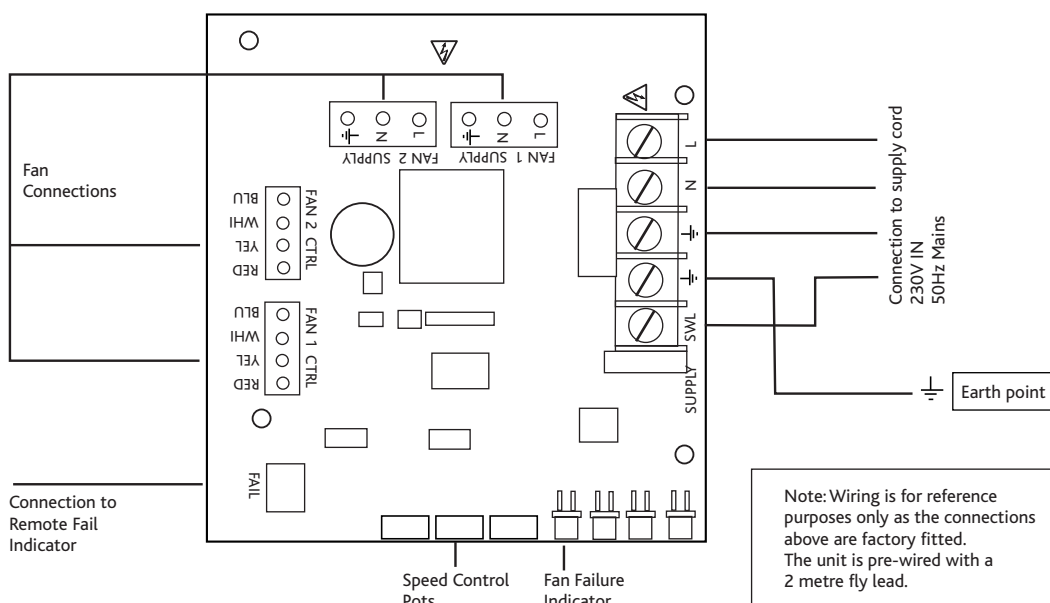
**Fuse rating:** 3 Amp

NOTE: This unit must be earthed.

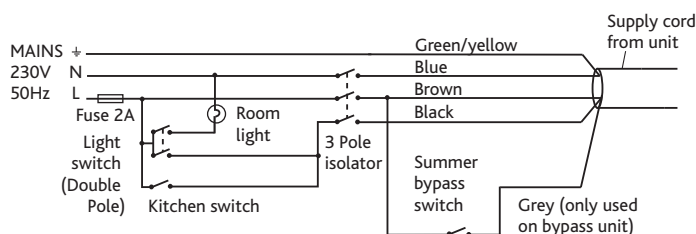
The three core cable from the mains power supply should be connected to a fixed wiring installation, via a fused isolator, in accordance with current IEE wiring regulations.



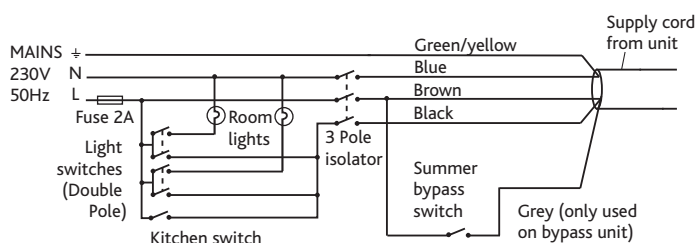
Detail of unit control on side panel.



## UNIT SERVING KITCHEN AND BATHROOM



## UNIT SERVING KITCHEN AND TWO BATHROOMS



CONSULTANTS SPECIFICATION

OPERATION

The supply and extract ventilation unit shall be positioned as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from the wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element.

The extracted air shall also be filtered before it reaches the heat exchanger block.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Switched live signal from light / remote switches.

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

The unit shall have the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation), boost control will control both fans to the same volume, via inbuilt minimum and maximum speed adjustment;. The fans shall have infinitely variable speed control.

MRXBOX95-LH1 - UNIT SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 95%. The heat exchanger shall be protected by G4 grade filters on fresh air inlet and system extract. The heat exchanger and filters shall be accessible via the top access panel, enabling quick and easy maintenance.

The unit shall have low energy, high efficiency EC fan/motor assemblies with sealed for life bearings, the impellers shall be backward curved centrifugal type. The motors shall be suitable of an ambient temperature of 40°C.

The unit shall be supplied complete with an insulated condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 150mm or 125mm circular ducting.

Anti-vibration mounts are supplied with each unit to prevent vibration being transmitted to the ceiling timbers.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

OPTIONAL SUMMER BYPASS - MRXBOX95B-LH1

The bypass damper opens when a 230V signal is applied to the unit (via a manual switch, supplied). This opens the damper via an actuator. When the switch signal is de-activated the unit returns to its original state (air through the heat exchanger).

Outside air supplied through the bypass is still filtered, so the air quality is optimal, irrespective of the bypass setting (Open or closed).

MRXBOX95-LH1 - CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer: -

- Independent control of background supply and extract flow rates.
- Single control of boost ventilation rates
- Run time monitor included
- Integral Fan failure indication.
- Integral S/L terminal for boost from remote switch, e.g. light switch.

OPTIONAL CONTROL

MRXBOX95LH-RFI Remote fail indicator.

Units shall be the MRXBOX95-LH1 as manufactured by Nuaire.



## STYLISH KITCHEN EXTRACT SOLUTION FOR USE WITH CENTRAL EXTRACT SYSTEM (MEV, MVHR & CONSTANT PRESSURE)



Metallic grease filters.



Push button for lights and boost signal.

This easy to clean 60cm stainless steel cookerhood unit is fitted with two, washable metallic grease filters for quick and easy maintenance.

The push button located on the front of the unit illuminates the cooking area and provides a switched live signal to trigger boost function (when linked to a Nuaire MEV, MVHR or damper system).

- Extraction tube 125mm diameter ducting
- Incorporates a simple boost facility – the light switch on unit acts as trigger for boost facility
- 2 metallic grease filters
- 2 lights
- 2 year warranty

The Cookerhood does not contain a fan. Extract is via a separate fan unit e.g. MEVDC, MVHR or Constant Pressure CVD.

**Coding: CKRH**

## MRXBOX95-LH2 MECHANICAL SUPPLY & EXTRACT WITH HEAT RECOVERY

UP TO 95% EFFICIENT, SAP APPENDIX Q RECOGNISED.  
LOFT MOUNTING DESIGN FOR LARGER HOUSES.



## BENEFITS

**MRXBOX95-LH2** is designed to provide optimised balanced (supply and extract) mechanical ventilation with heat recovery. Tempered air is delivered into 'living' areas whilst extracting moisture laden air from 'wet' areas, creating comfortable well ventilated homes. The unit has the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation), boost control will control both fans to the same volume. The heat exchanger block can recover up to 95% of the normally wasted heat.

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### VERY HIGH EFFICIENCY

To meet customer requirements on SAP scores ensuring the reduction in emissions needed for code level 3 and above (25% reduction).

### LOW MAINTENANCE

High quality components such as filters and EC motors ensure lowest possible maintenance and long life motors. Filter replacement typically every 5 years.

### LOW POWER CONSUMPTION

Reducing operating and the life cycle costs.

### COMPACT

Dedicated design ensured the most compact size for duty on the market. The loft versions are specifically designed to go through the smallest loft hatches.

### LIGHTWEIGHT

A one man lift for ease of install.

### EXTREMELY LOW NOISE LEVELS

Quiet running unit, ensuring occupant acceptability.

### CREATES A HEALTHIER ENVIRONMENT

High efficiency filters removes up to 95% of dust particles.

### PREVENTS CONDENSATION FROM LOFT

### EASY TO USE

Well located controls for simple installation, commissioning and use.

### OPTIONAL SUMMER BYPASS AVAILABLE

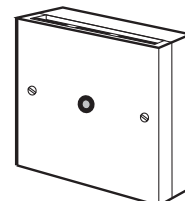
Provides cooling during warmer months.  
**MRXBOX95B-LH2.**

### 5 YEAR WARRANTY

5 year parts and 1 year labour warranty guarantee reduced life costs and peace of mind.

### OPTIONAL REMOTE FAIL INDICATOR

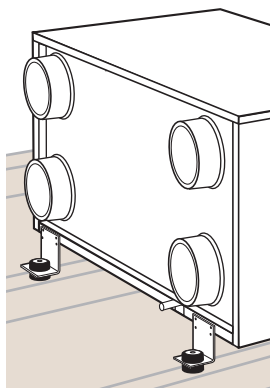
**MRXBOX95LH-RFI** is connected to the fan unit via low voltage wiring.



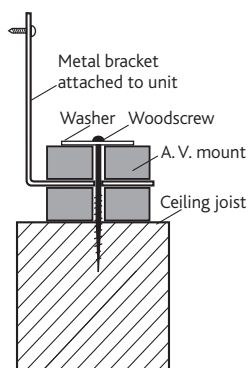
### DISCREET RUN MONITOR

Records units operational time.

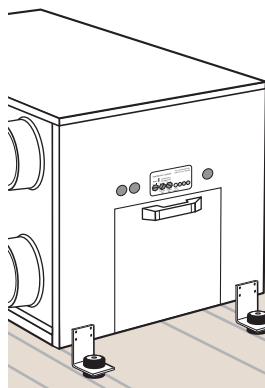
## FLEXIBLE LOFT MOUNTING OPTIONS



Option 1. Mounted on roof joists using four "L" shape metal brackets and AV mounts on long sides of unit.

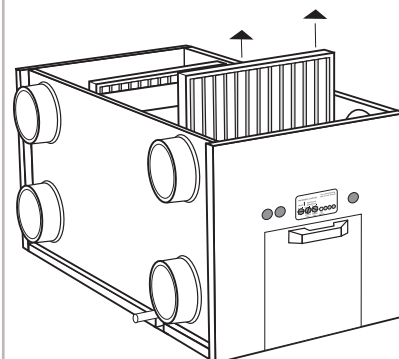


Side view example of an 'L' shaped fixing bracket and AV mount attached to ceiling joist.

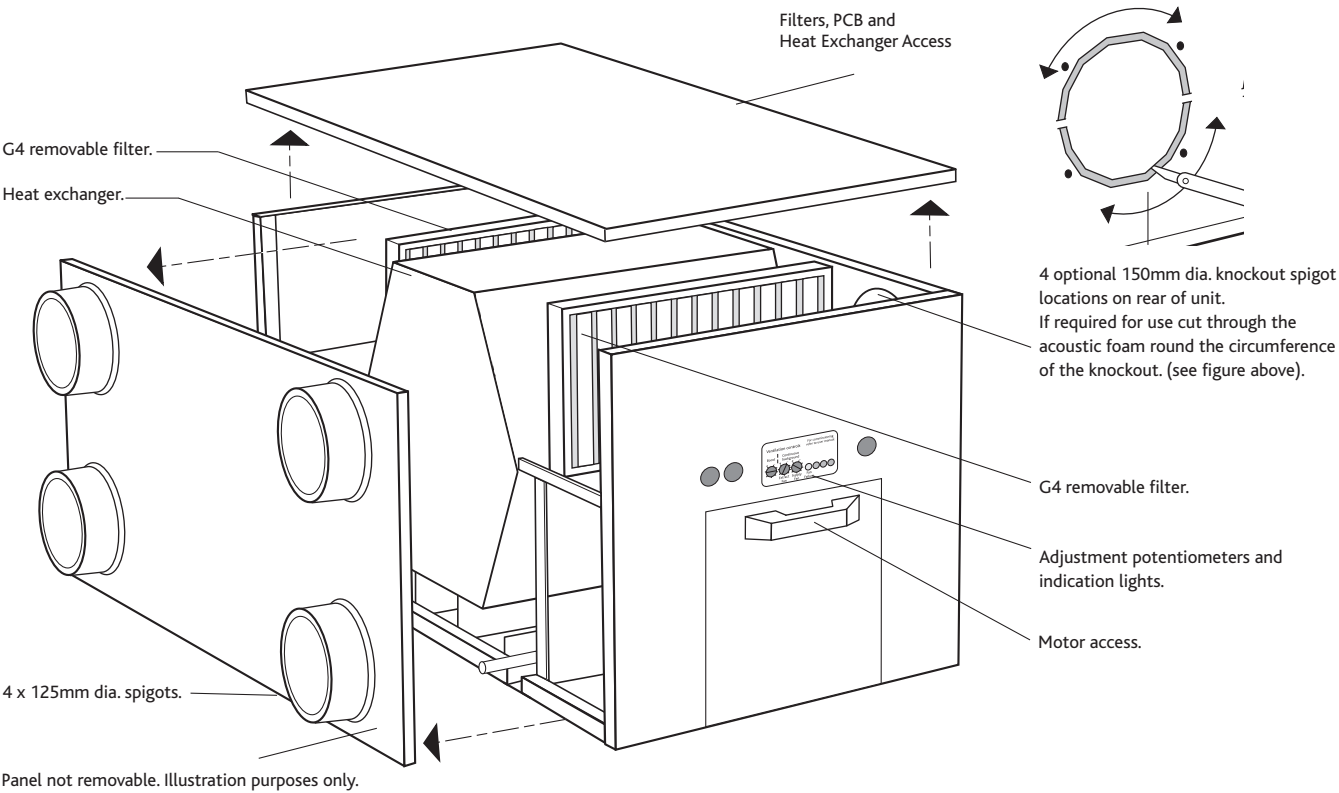


Option 2. Mounted on roof joists using four "L" shape metal brackets and AV mounts on short sides of unit.

## REMOVABLE G4 FILTERS



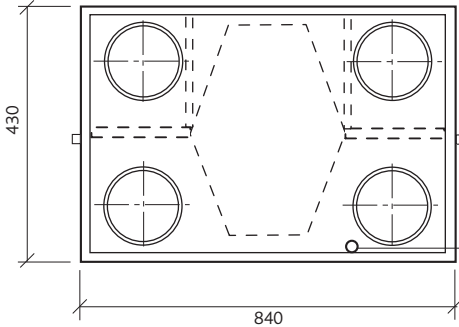
UNIT COMPONENTS



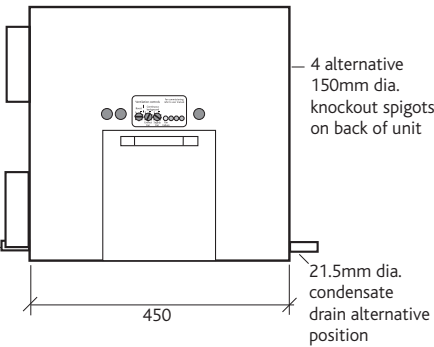
DIMENSIONS (MM)

Weight 21 Kg

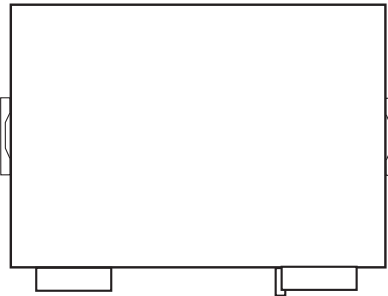
View from front 4 X 125mm spigots



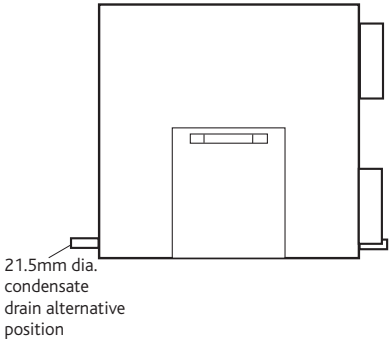
Side view (controls)



View from top



Side view (non controls)



## ELECTRICAL CONNECTION

Please note: the electrical connection of the unit must be carried out by a qualified electrician.

### Electrical details:-

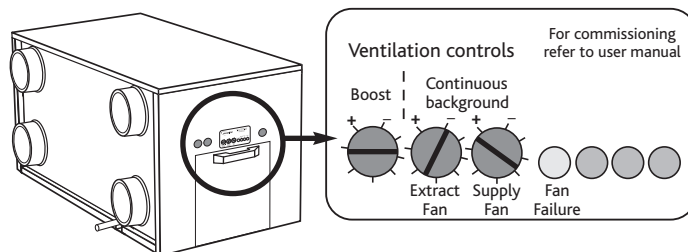
**Voltage:** 240V 1ph 50Hz

**Consumption:** LH2 - 2.2 Amp

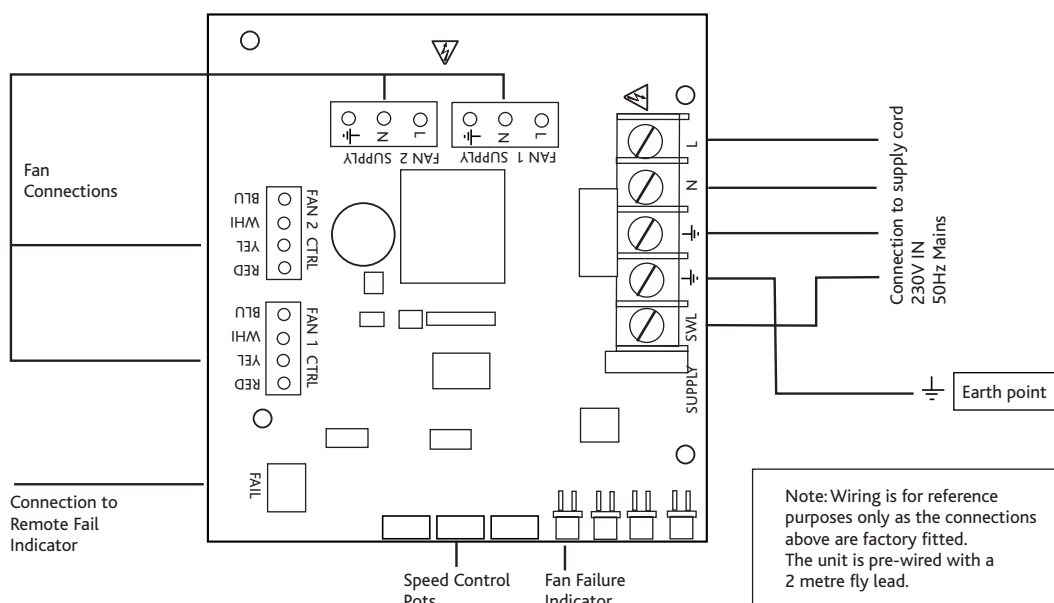
**Fuse rating:** 3 Amp

NOTE: This unit must be earthed.

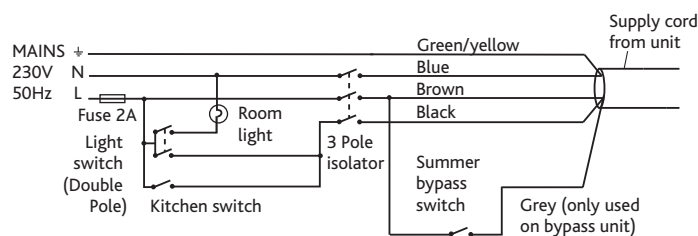
The three core cable from the mains power supply should be connected to a fixed wiring installation, via a fused isolator, in accordance with current IEE wiring regulations.



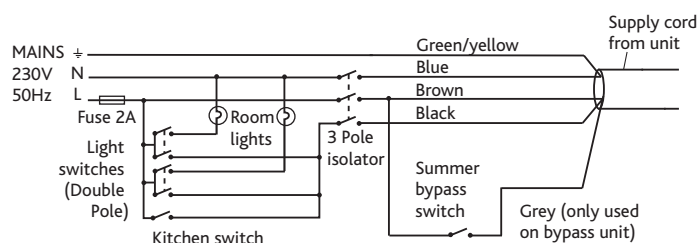
Detail of unit control on side panel.



## UNIT SERVING KITCHEN AND BATHROOM

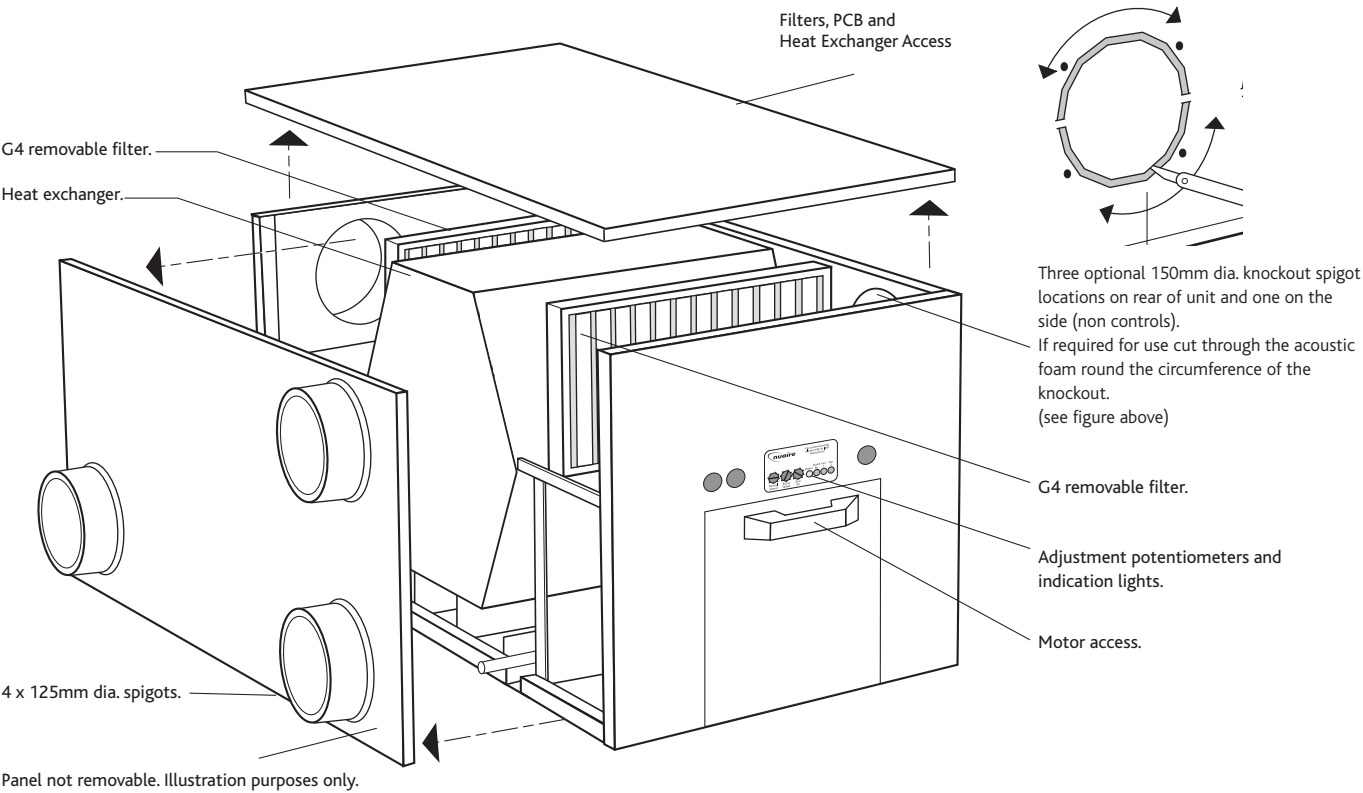


## UNIT SERVING KITCHEN AND TWO BATHROOMS



GENERAL ARRANGEMENT

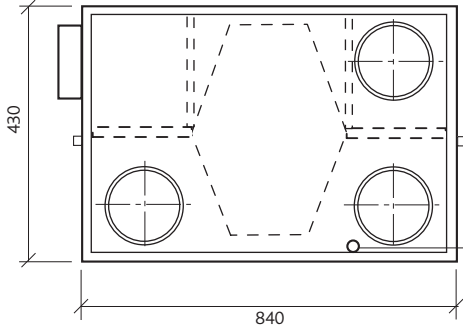
OPTIONAL SUMMER BYPASS - MRXBOX95B-LH2



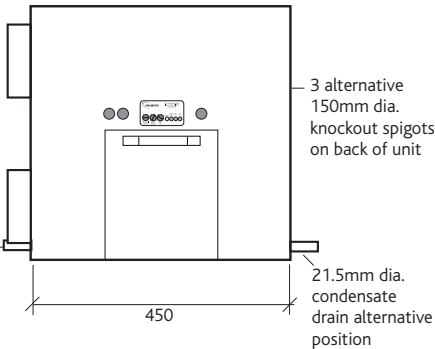
DIMENSIONS (MM)

Weight 21 Kg

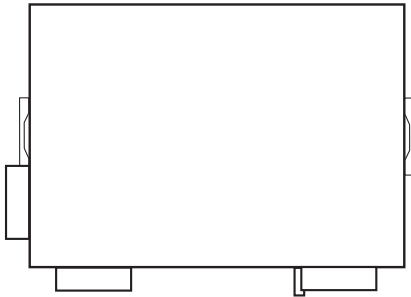
View from front 3 X 125mm spigots



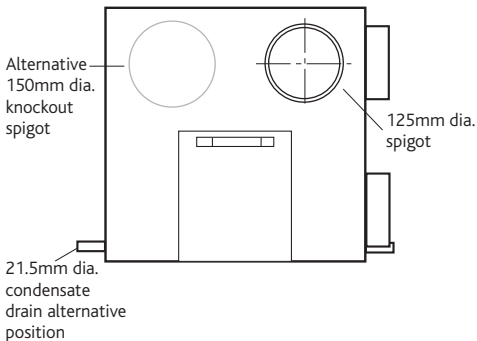
Side view (controls)



View from top

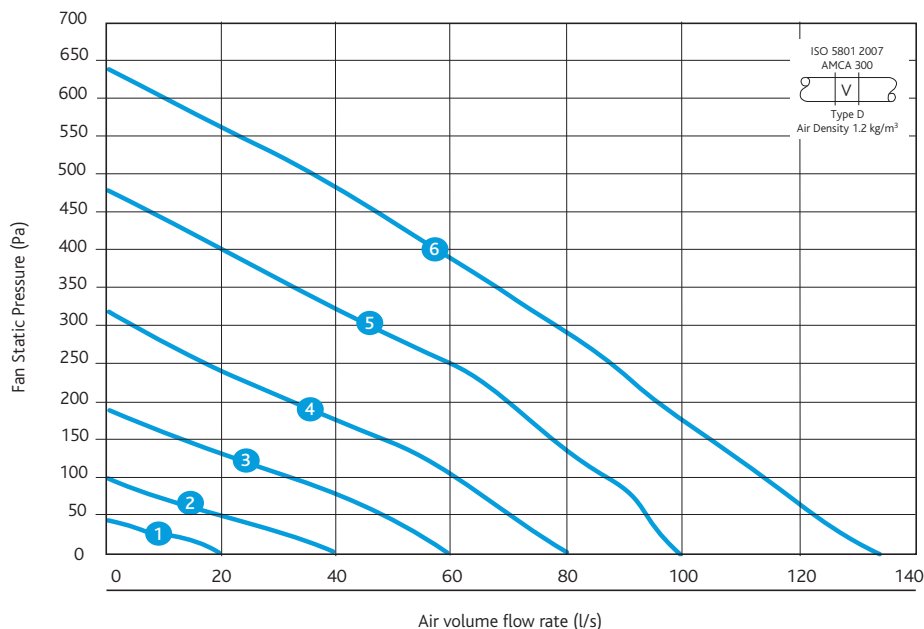


Side view (non controls)

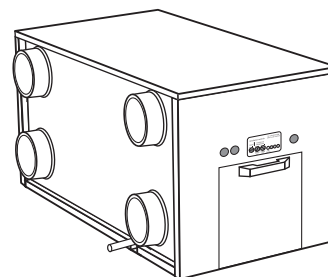


## PERFORMANCE - MRXBOX95-LH2

### MRXBOX95-LH2



## Casing



## Code descriptions

### MR-XBOX95-LH2

1 2 3 4 5

1. Multi-room supply and extract heat recovery
2. Product range
3. Efficiency
4. Loft application
5. H2 = High 2 Model

## SAP APPENDIX Q TEST RESULTS

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Performance Compliant
Kitchen Plus 1 wet room	0.81	91	Yes
Kitchen Plus 2 wet rooms	0.77	91	Yes
Kitchen Plus 3 wet rooms	0.78	91	Yes
Kitchen Plus 4 wet room	0.86	91	Yes
Kitchen Plus 5 wet rooms	0.96	91	Yes
Kitchen Plus 6 wet rooms	1.09	90	No

### MRXBOX95-LH2

## ELECTRICAL & SOUND

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW								dBA @3m
			63	125	250	500	1K	2K	4K	8K	
1	16	Open inlet	36	33	34	24	22	19	20	23	13
		Open outlet	40	38	39	38	32	30	29	30	22
		Breakout	40	38	36	30	21	21	20	18	14
2	30	Open inlet	40	39	41	30	28	24	21	24	18
		Open outlet	41	49	49	49	42	41	30	33	32
		Breakout	41	49	46	41	31	32	21	20	24
3	62	Open inlet	43	42	54	38	37	31	30	33	29
		Open outlet	50	53	59	60	52	52	42	34	42
		Breakout	50	52	56	52	41	43	33	30	34
4	106	Open inlet	44	46	57	43	42	37	30	33	33
		Open outlet	50	58	65	63	58	59	50	40	47
		Breakout	50	57	62	55	47	50	41	36	40
5	170	Open inlet	46	48	58	52	48	42	30	33	36
		Open outlet	51	61	70	74	64	64	56	48	55
		Breakout	51	60	67	66	53	55	47	44	47
6	277	Open inlet	50	54	62	62	55	47	39	38	43
		Open outlet	56	65	72	77	69	69	61	54	58
		Breakout	56	64	69	69	60	60	52	50	51

Hemispherical Free field dBA

The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving and based on SAP Appendix Q testing.

CONSULTANTS SPECIFICATION

OPERATION

The supply and extract ventilation unit shall be positioned as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from the wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element. The extracted air shall also be filtered before it reaches the heat exchanger block.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Switched live signal from light / remote switches.

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

The unit shall have the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation), boost control will control both fans to the same volume, via inbuilt minimum and maximum speed adjustment;. The fans shall have infinitely variable speed control.

MRXBOX95-LH2 - UNIT SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 95%. The heat exchanger shall be protected by G4 grade filters on fresh air inlet and system extract. The heat exchanger and filters shall be accessible via the top access panel, enabling quick and easy maintenance.

The unit shall have low energy, high efficiency EC fan/motor assemblies with sealed for life bearings, the impellers shall be backward curved centrifugal type. The motors shall be suitable of an ambient temperature of 40°C.

The unit shall be supplied complete with an insulated condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 150mm or 125mm circular ducting. Anti-vibration mounts are supplied with each unit to prevent vibration being transmitted to the ceiling timbers.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

OPTIONAL SUMMER BYPASS - MRXBOX95B-LH2

The bypass damper opens when a 230V signal is applied to the unit (via a manual switch, supplied). This opens the damper via an actuator. When the switch signal is de-activated the unit returns to its original state (air through the heat exchanger). Outside air supplied through the bypass is still filtered, so the air quality is optimal, irrespective of the bypass setting (Open or closed).

MRXBOX95-LH2 - CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer: -

- Independent control of background supply and extract flow rates.
- Single control of boost ventilation rates
- Run time monitor included
- Integral Fan failure indication.
- Integral S/L terminal for boost from remote switch, e.g. light switch.

OPTIONAL CONTROL

MRXBOX95LH-RFI Remote fail indicator.  
Units shall be the MRXBOX95-LH2 as manufactured by Nuaire.

# Want to find out more about building regulations and residential ventilation?



**You may have taken advantage of our recent CPD seminars on natural ventilation for commercial buildings but did you know Nuaire offer a wide range of CPD seminars for residential ventilation as well?**

So if you are working on apartments, mixed use developments or purely residential plots we can offer the right CIBSE accredited training for you, including a comprehensive guide to the domestic building regulations.



**New seminars from Nuaire also include:**

- BPEC accredited domestic installation training
- Sunwarm Air (new Solar Air Pre-heat PIV category for SAP Appendix Q)
- Natural ventilation
- Smoke solutions
- Overview of Air Handling Units

Contact your local representative, email [cpd@nuaire.co.uk](mailto:cpd@nuaire.co.uk)  
or call **02920 858463** to organise a seminar.

MRXBOX90L - WHOLE HOUSE HEAT RECOVERY UNIT

90% EFFICIENT, SAP APPENDIX Q RECOGNISED  
AND PASSIVE HOUSE CERTIFIED HEAT RECOVERY UNIT.



**Component  
Suitable  
for  
Passive Houses**  
Dr. Wolfgang Feist

valid only in combination with the certificate

## BENEFITS

### MEETS REGULATIONS

SAP Appendix Q recognised.  
Certified by Passivhaus Institut.

### HIGH EFFICIENCY

90% efficient, with DC motors using 50% less energy than traditional fans.

### EXTREMELY LOW NOISE LEVELS

Acoustic insulation ensures the ideal solution for loft or cupboard installations.

### GUARANTEED CONSTANT AIRFLOW

2 self adjusting fans provide constant fresh air.

### HEALTHY ENVIRONMENT

Removes up to 95% of the dust from the atmosphere.

### LOW AND EASY MAINTENANCE

Unit is fitted with filter indication display. Easy access to filters via "tool free" hinged door.

### SIMPLE TO SET UP

Units have a display for easy installation.

### AUTOMATIC SUMMER BYPASS AS STANDARD

Unit has summer bypass as standard. Unit continuously monitors the temperature inside and outside and will bypass the heat exchanger when appropriate.

### MULTI OPTION CONTROLS AND SENSORS

Inbuilt controls that automatically adjust the fan speed to suit the individual systems pressure drop. Wide choice of controls including 3 speed trickle/boost and purge and optional wireless remote control.

### WARRANTY

5 year warranty for peace of mind.



Removable filters.



Facia mounted control panel.



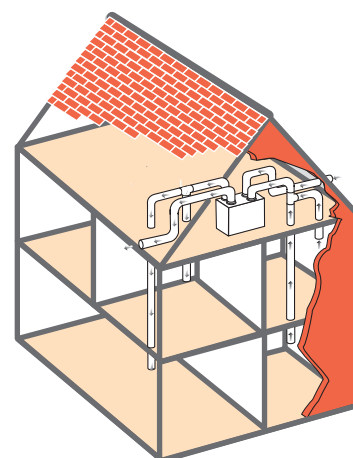
Speed selector switch (included).



Optional receiver.



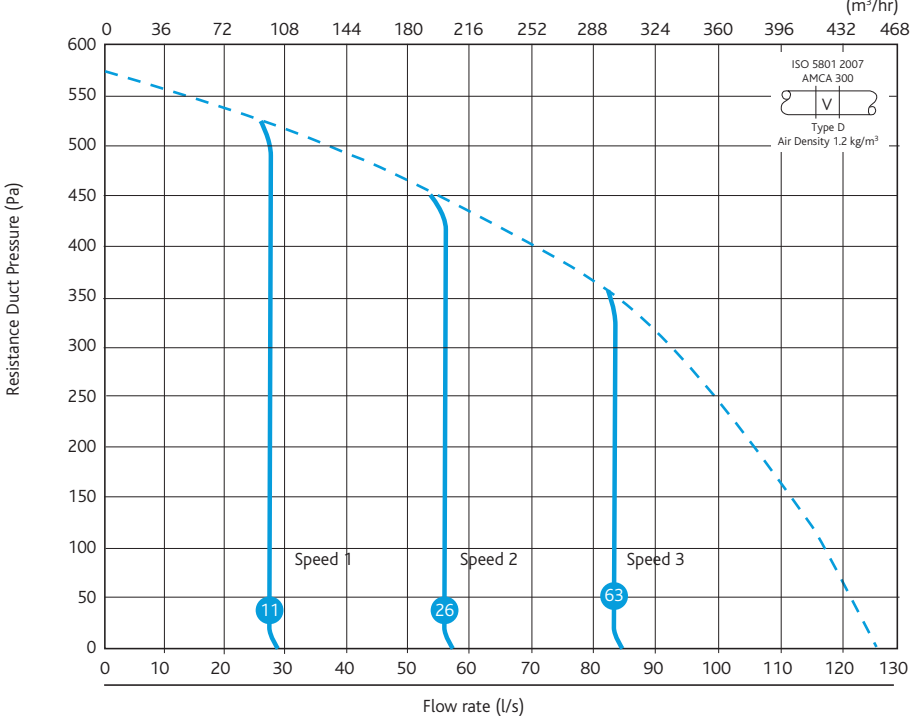
Optional wireless remote control.



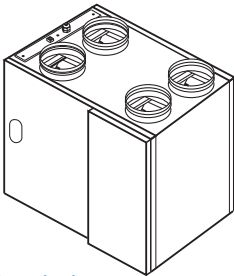
Typical installation with unit mounted in loft.

PERFORMANCE - MRXBOX90L

Air Performance of MRXBOX90L



Casing



Code descriptions

MR - XBOX - 90 - L

- 1
- 2
- 3
- 4
1. Multi-room Supply and extract heat recovery
2. Range
3. Efficiency
4. Size

Note: Speeds 1, 2 and 3 are factory default settings and can be adjusted to suit individual requirements.

**No.** = Power consumption.

MRXBOX90L

ELECTRICAL, SOUND & WEIGHT

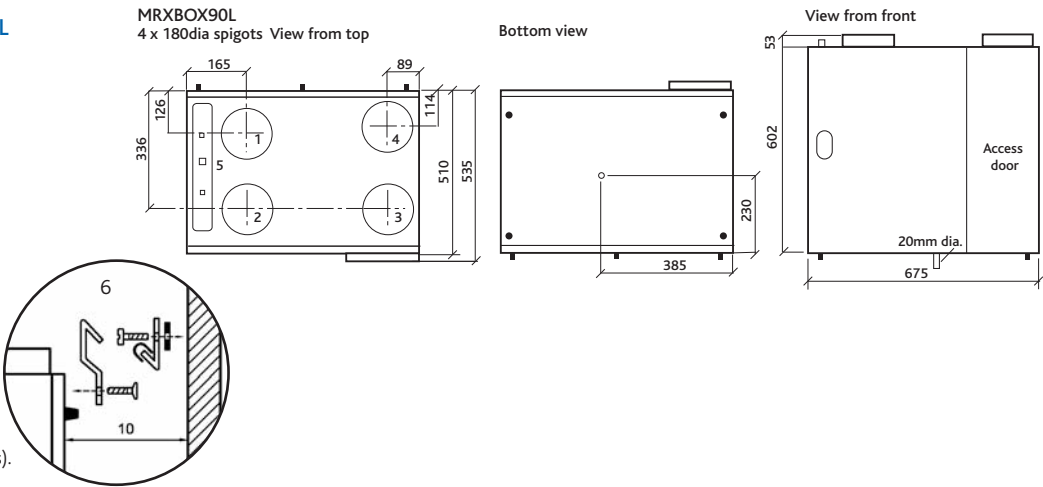
Speed	Code	Phase	Total motor power watts	Full load current amps		Induct Sound Power Levels dB re 1pW								Breakout dBA @3m	Weight Kg
						63	125	250	500	1K	2K	4K	8K		
1	mrXbox90L	1	23	0.17	Breakout	45	38	36	32	26	18	7	9	33	40
					Supply	50	51	48	48	49	40	34	23		
					Extract	36	33	21	23	15	7	8	15		
2	mrXbox90L	1	67	0.45	Breakout	50	47	43	38	37	31	25	22	42	
					Supply	59	63	59	58	57	52	48	41		
					Extract	46	47	35	33	30	22	16	16		
3	mrXbox90L	1	175	1.16	Breakout	60	57	53	47	44	43	37	37	51	
					Supply	65	68	68	66	64	61	57	52		
					Extract	52	57	46	42	38	34	29	20		

Note: Speeds 1, 2 and 3 are factory default settings and can be adjusted to suit individual requirements.

DIMENSIONS (MM) MRXBOX90L

Dimensional references:

- 1 = spigot to dwelling. Supply (warmed fresh air).
- 2 = spigot to outside. Exhaust (cool stale air).
- 3 = spigot from dwelling. Extract (warm stale air).
- 4 = spigot from outside. Intake (cool fresh air).
- 5 = electric connections
- 6 = detail wall mounting (make sure to correctly place the rubber strip, washers and caps).



## CONSULTANTS SPECIFICATION

### OPERATION

The supply and extract ventilation unit shall be positioned as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from the wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element. The extracted air shall also be filtered before it reaches the heat exchanger block.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Manual activation from 3 position switch.
  - Optional remote RF boost switch humidity sensor.
  - Optional externally interconnected sensors.
- } Via optional PCB.

When signals are received, the fan shall alter its speed to selectable, pre-set normal and boost rates.

The unit shall have the facility to commission the supply and extract fans via inbuilt minimum and maximum speed adjustment; the fans shall have infinitely variable speed control. Once the duty of the fans is set on the fascia mounted controller the unit shall automatically adjust its speed to maintain the air volume flow rate selected on a constant volume principle.

A summer bypass shall be included that shall allow fresh air to bypass the heat exchanger, when the incoming air temperature is at or above the designated "set point".

### MRXBOX90L - UNIT SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 95%. The heat exchanger shall be protected by G4 grade filters on fresh air inlet and system extract. The heat exchanger and filters shall be accessible via fascia access panels, enabling quick and easy maintenance.

The unit shall have low energy, high efficiency d.c. fan/motor assemblies with sealed for life bearings, the impellers shall be forward curved centrifugal type. The motors shall be suitable of an ambient temperature of 40°C.

The unit shall have integral temperature sensors that shall monitor the incoming and extracted air temperatures to provide frost protection as well as controlling the summer bypass.

A fascia mounted control unit with microprocessor controls with LCD display enabling infinitely variable adjustment of the air volume.

The unit shall be supplied complete with an insulated condensate drip tray and 20mm drain connection.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

### MRXBOX90L - CONTROL OPTIONS

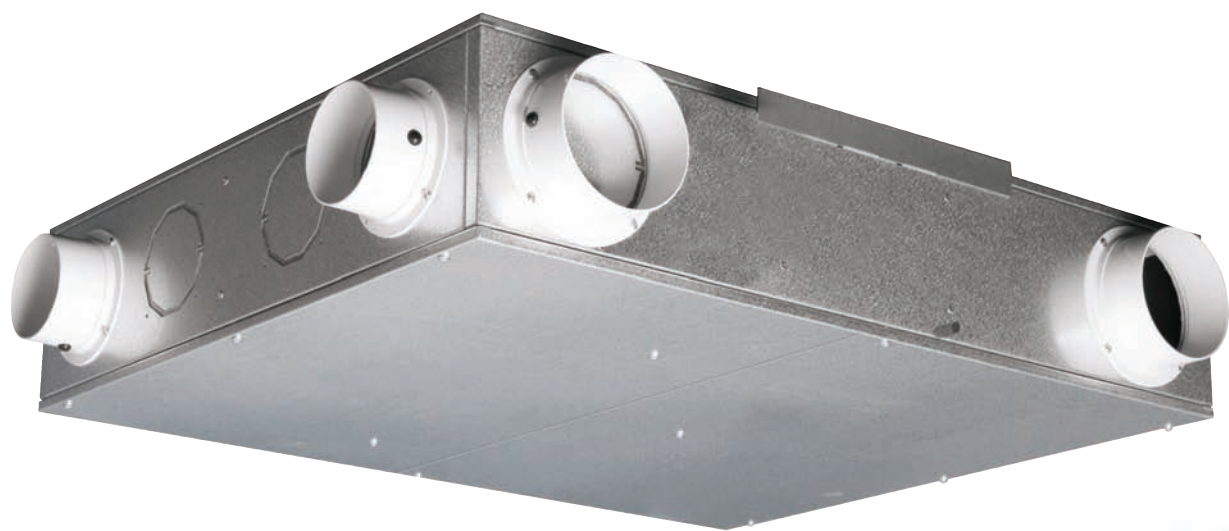
All versions shall have a pre-wired and factory fitted, fascia mounted multi function control panel with LCD display providing the following:

- Integral speed control on supply and extract – 3 speeds available: -
  1. Low speed background ventilation control/set point.
  2. Medium speed ventilation control/set point, for day to day boost.
  3. High speed ventilation control/set point for summer boost.
- Constant volume facility to adjust for system pressure.
- Filter dirty & maintenance indication on fascia control.

The standard warranty for MRXBOX90 series shall be for 5 years.

LPXBOXDC-2 LOW PROFILE HEAT RECOVERY FOR APARTMENTS

VERY LOW DEPTH HEAT RECOVERY UNIT WITH MULTIPLE SPIGOTS.  
SAP APPENDIX Q RECOGNISED.



## BENEFITS

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### VERY LOW DEPTH - WITHIN CEILING FITTING

185mm, ideal for applications where space is at a premium.

### LOW NOISE LEVELS

Acoustic lining ensures unit is ideal for applications where noise is an issue.

### HIGH EFFICIENCY

Heat exchanger is up to 70% effectiveness with low energy DC motors and components help to minimise electrical energy consumed.

### LOW MAINTENANCE COSTS

Aluminium heat exchanger block and drip tray are easily accessible for quick and easy access.

### QUICK INSTALLATION

Single point bracket ideal for quick 1st and 2nd fix.

### HEALTHY ENVIRONMENT

Removes up to 95% of the dust from the atmosphere.

### ADVICE AND INSTALLATION SERVICE

Please contact Nuaire on 02920 858 200 (or email [drawings@nuaire.co.uk](mailto:drawings@nuaire.co.uk)) for advice on ventilation solutions.

### MULTIPLE SPIGOT OPTIONS

Easy installation position.

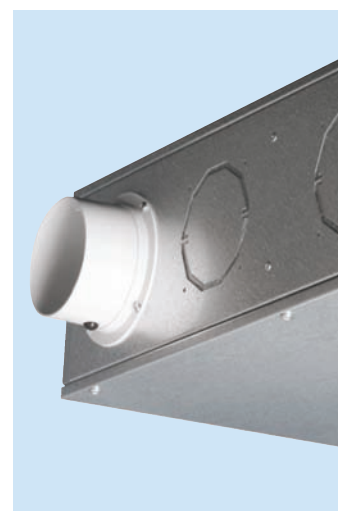
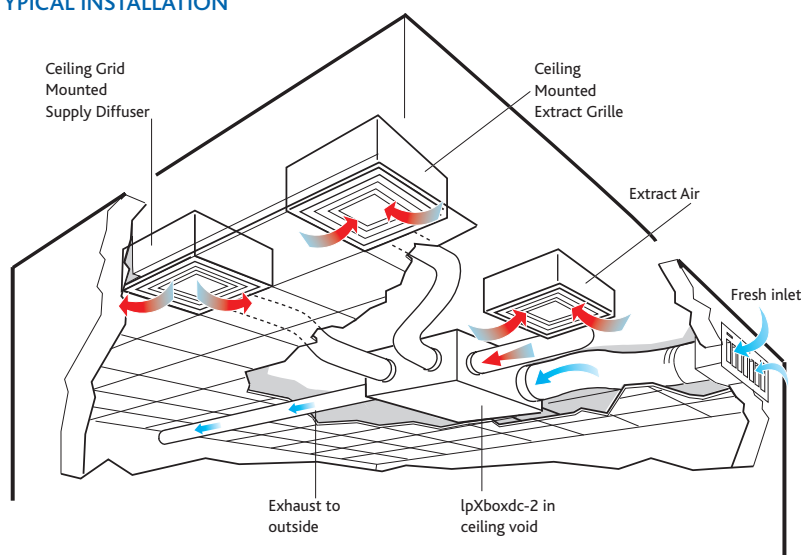
### FLEXIBLE CONDENSATE

Condensate drain option, either left or right hand side.

### WARRANTY

5 year warranty for peace of mind.

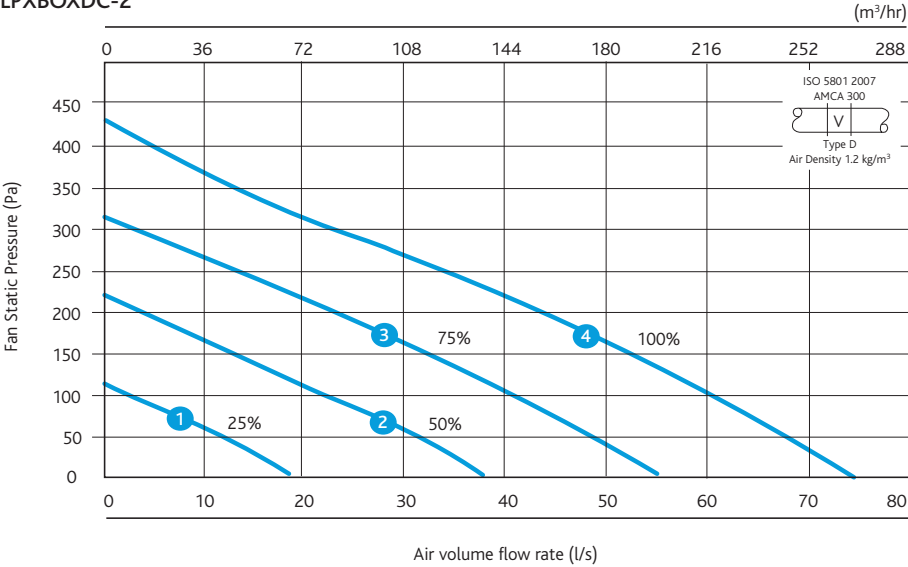
## TYPICAL INSTALLATION



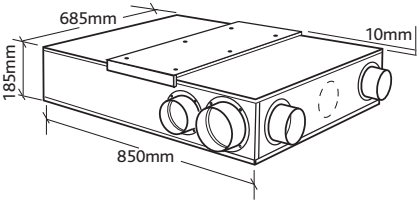
Knockout spigots.

PERFORMANCE LPXBOXDC-2

LPXBOXDC-2



DIMENSIONS (MM) LPXBOXDC



Knockout spigots  
3 x 100mm and 3 x 125mm

Code descriptions

LP - XBOX - DC-2

1 2 3

- 1. Low profile
- 2. Range
- 3. Direct current

LPXBOXDC-2

ELECTRICAL, SOUND & WEIGHT

Curve	Ref	**W	FLC amps		Sound figures Induct sound power level re 1pW								Breakout dBA @3m	Weight Kg
					125	250	500	1K	2K	4K	8K			
1 (25%)	Supply fan	5	0.05	Inlet	29	31	28	15	16	7	2	15	25	
				Outlet	19	26	23	14	8	4	4			
	Extract fan	5	0.05	Inlet	18	26	17	7	4	5	5	15		
				Outlet	35	39	43	34	34	26	16			
2 (50%)	Supply fan	17	0.1	Inlet	45	47	44	31	32	23	15	29		
				Outlet	35	42	39	30	24	12	9			
	Extract fan	17	0.1	Inlet	34	42	33	23	19	9	9			
				Outlet	51	55	59	50	50	42	32			
3 (75%)	Supply fan	51	0.3	Inlet	55	57	54	41	42	33	25	38		
				Outlet	45	52	49	40	34	22	19			
	Extract fan	51	0.3	Inlet	44	52	43	33	29	19	19			
				Outlet	61	65	69	60	60	52	42			
4 (100%)	Supply fan	120	0.7	Inlet	62	64	61	48	49	40	32	44		
				Outlet	52	59	56	47	41	29	26			
	Extract fan	120	0.7	Inlet	51	59	50	40	36	26	26			
				Outlet	68	72	76	67	67	59	49			

\*Fans are programmed with a soft start, therefore starting current is the same as the FLC. Please note step curves shown are for information purposes only and are not individual units. The units actual duty range is infinitely variable. \*\*W = Watts are total power consumption.

SAP APPENDIX Q TEST RESULTS

Application	Specific fan power (W/l/s)	Heat exchange efficiency (%)	Energy Savign Trust Best Practice Performance Compliant
Kitchen + 1 wetroom	0.80	66	No
Kitchen + 2 wetrooms	0.76	65	No
Kitchen + 3 wetrooms	0.79	64	No
Kitchen + 4 wetrooms	0.89	62	No
Kitchen + 5 wetrooms	1.04	61	No
Kitchen + 6 wetrooms	1.37	60	No
Kitchen + 7 wetrooms	1.69	59	No

## CONSULTANTS SPECIFICATION

### OPERATION

The supply and extract ventilation unit shall be as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification. The ventilation unit shall automatically vary the ventilation rate, as it receives signals from one of the optional interconnected sensors. When signals are received, the fan shall either vary its speed proportionally or on a trickle and boost principle. The unit shall have the facility to commission the supply and extract fans individually via inbuilt minimum and maximum speed adjustment, the fans themselves shall have infinitely variable speed control.

### LPXBOXDC-2 UNIT SPECIFICATION

The fans shall be acoustically lined with high density class "O" flame retardant insulation, giving extremely low noise levels. The unit shall have a heat exchanger block manufactured from aluminium with a thermal efficiency of approximately 70% which shall be protected by G2 grade filters on supply and extract. It shall come complete with a condensate drip tray and 22mm drain connection, integral minimum and maximum speed controls, run on timer and fascia mounted failure indication. The breakout noise level and power requirements shall be as detailed by the unit manufacturer and as detailed in the ventilation equipment schedule. The unit shall have low energy, high efficiency d.c. fan/motor assemblies with sealed for life bearings. The depth of the low profile unit shall not be greater than 185mm and shall incorporate a low profile single point mounting bracket, (allow 10mm for bracket). The unit shall be constructed with one removable panel allowing full maintenance access to all components. To facilitate the interconnection of branch ducts the unit shall have multiple spigot connections with integrated balancing dampers. Spigot connections provided.

### LPXBOXDC-2 CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer: -

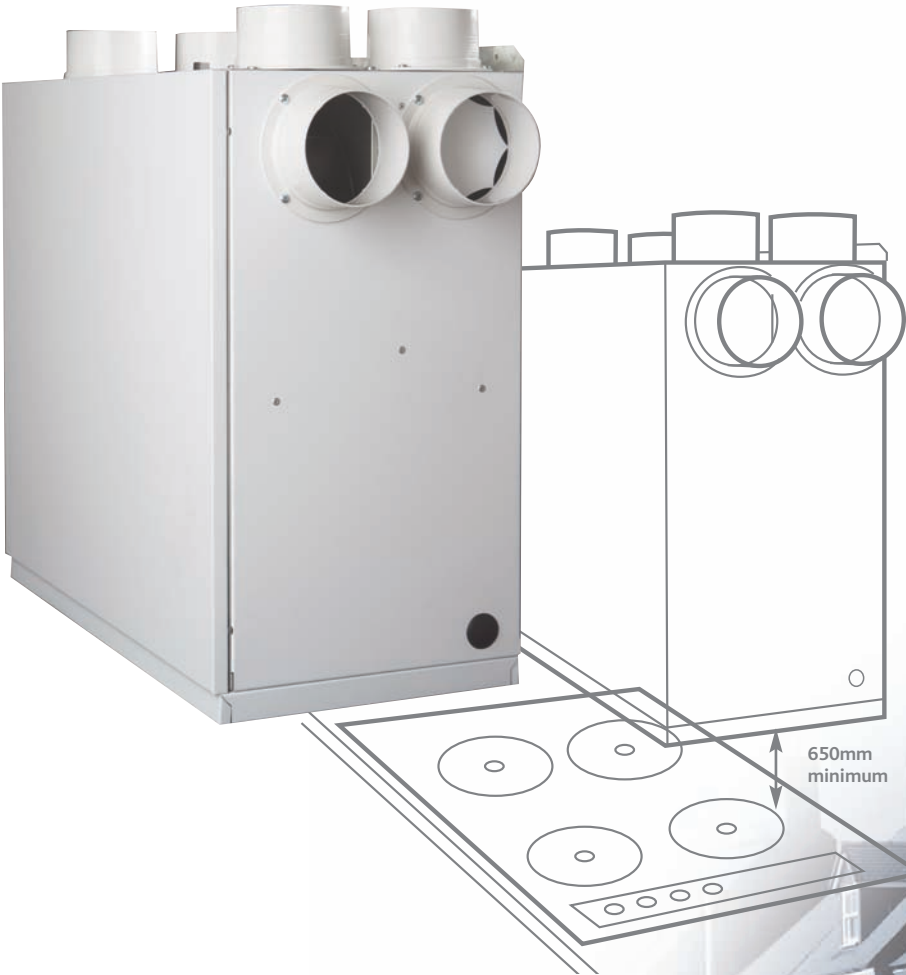
- Integral speed control on supply and extract.
- Integral background ventilation control/set point.
- Integral boost ventilation control/set point.
- Integral run on timer.
- Volt free failure indication (direct from individual fan).
- Integral S/L terminal for boost from remote switch, e.g. light switch.

Units shall be the LPXBOXDC-2 as manufactured by Nuaire.

The standard warranty for LPXBOXDC series shall be for 5 years.

COOKERXBOX - KITCHEN CANOPY HEAT RECOVERY SYSTEM

SPACE SAVING ABOVE COOKER HEAT RECOVERY UNIT WITH  
INTEGRAL AUTOMATIC BOOST.



## BENEFITS

### SLIM LINE PROFILE

Designed to sit behind cupboard door.

### HEAT RECOVERY

From 66% effective. Recovers heat when cooking, supplying warm air into dwelling avoiding condensation.

### MEETS REGULATIONS

New build 'best practice' rating in GPG 268.

### FLEXIBLE SPEED CONTROL

4 speed settings with automatic boost facility (thermostat senses air temp and boosts when required).

### FLEXIBLE INSTALLATION

Connections are either from the sides or top. Side connections are used to enable the ducting to run across the top of kitchen wall units.

### QUICK & EASY MAINTENANCE

Front and underneath panels allows for quick access to condensate drain and electrical supply, with washable grease filters.

### FINISH

White pre-coated steel finish with white ABS spigot connections.

### ADVICE AND INSTALLATION SERVICE

Please contact Nuaire on 02920 858 200 (or email [drawings@nuaire.co.uk](mailto:drawings@nuaire.co.uk)) for advice on ventilation solutions and installation service.

### WARRANTY

5 year warranty for peace of mind.

## TYPICAL INSTALLATION

The diagram illustrates the typical installation of a Nuaire Cookerbox. It shows a cross-section of the unit with various air flow paths indicated by arrows. On the left, an arrow points to a spigot labeled 'Air supply to home'. Below this, an arrow points to a spigot labeled 'Extract from bathroom en-suite'. In the center, an arrow points to a spigot labeled 'Extract flow above hob'. To the right of the hob, an arrow points to a spigot labeled 'Exhaust air to outside'. Further right, an arrow points to a spigot labeled 'Supply air from outside'. A label 'Grease filter' points to the filter area above the hob. The unit is shown installed behind a kitchen cupboard door.

Alternative spigot position.

A photograph showing the Nuaire Cookerbox installed in a kitchen. The unit is white and mounted behind a wooden cupboard door. The kitchen features wooden cabinets, a black countertop, and a gas hob with two pots on it. The unit is designed to sit behind the cupboard door.

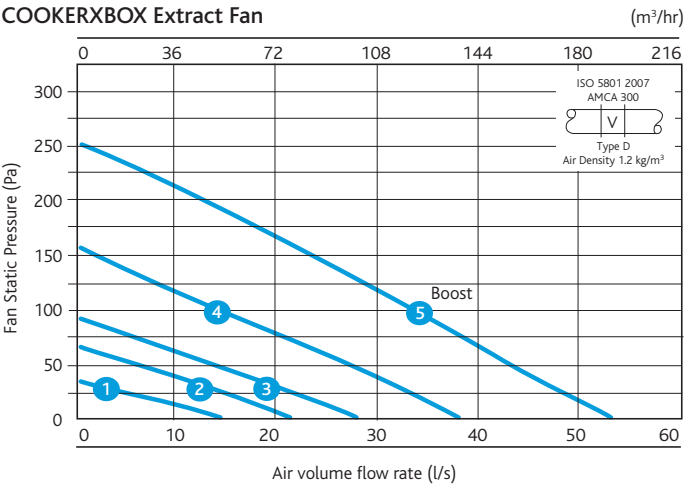
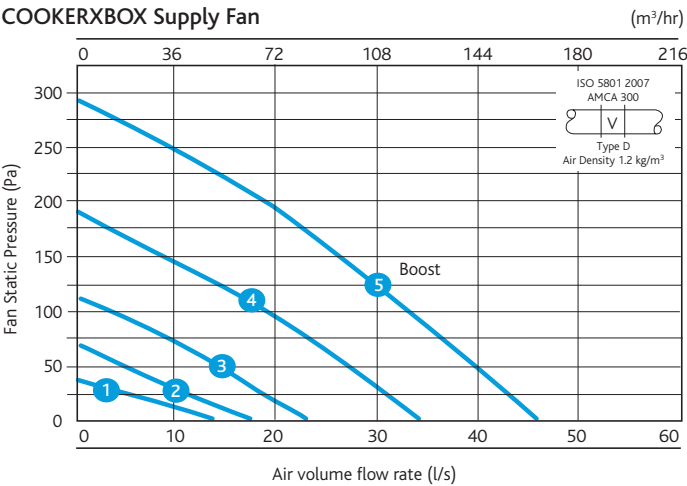
Designed to sit behind the cupboard door.

Download specification from [www.nuaire.co.uk/specifications](http://www.nuaire.co.uk/specifications)

[nuaire.co.uk](http://nuaire.co.uk)

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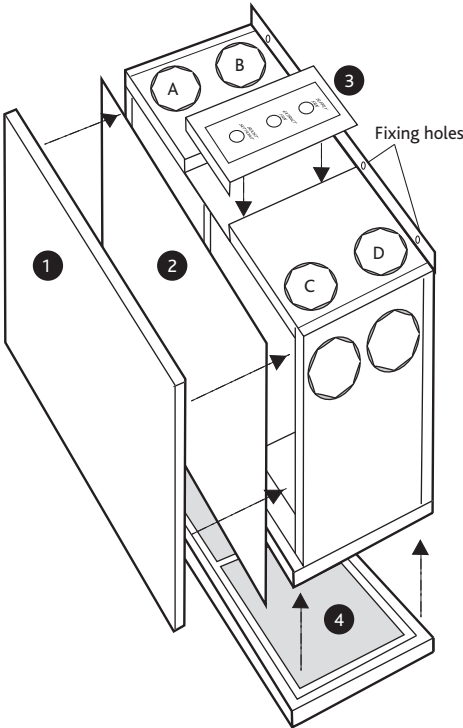
PERFORMANCE - COOKERXBOX



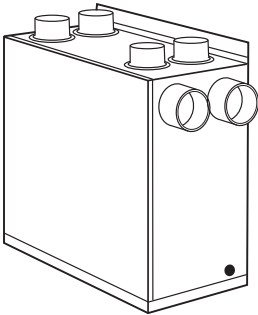
Access panels

In order to make connections for the condensate drain and electrical supply the access panels shown should be removed, starting with No.1. All panels should be stored safely to avoid damage.

- A = Supply air to house.
- B = Extract air from bathroom/ensuite.
- C = Exhaust air to outside.
- D = Supply air from outside.



Casing



Code

CKR XBOX

## COOKERXBOX

### ELECTRICAL, SOUND & WEIGHT

Extract Fan Curve	Code	Phase	Motor power kW	Full load* current amps		Induct Sound Power Levels dB re 1pW								Breakout	
						63	125	250	500	1K	2K	4K	8K	dBA @3m	Weight Kg
5	ckrXbox	1	60	0.260	Boost open inlet	58	60	62	53	47	45	40	30	39	20
4			34	0.140	Speed 4 open inlet	52	54	55	46	40	38	29	26	31	
3			24	0.105	Speed 3 open inlet	49	51	43	40	34	30	24	25	24	
2			18	0.080	Speed 2 open inlet	48	51	39	35	30	25	22	20	21	
1			12	0.060	Speed 1 open inlet	44	45	37	32	27	23	22	20	18	

#### Supply Fan

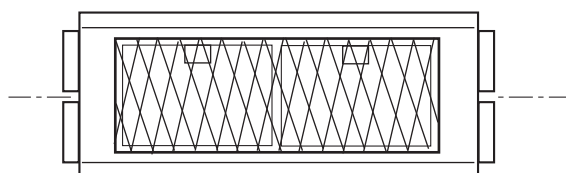
5	ckrXbox	1	60	0.260	Boost open outlet	51	63	71	66	65	61	54	44	52	
4			37	0.140	Speed 4 open outlet	48	52	64	61	59	54	45	36	46	
3			24	0.105	Speed 3 open outlet	44	50	53	54	53	47	35	28	39	
2			18	0.080	Speed 2 open outlet	38	39	41	41	39	27	22	20	25	
1			12	0.060	Speed 1 open outlet	38	39	37	32	27	23	22	20	17	

Note: Part L1 compliance: Specific Fan Power (SFP) will be less than 2.0 for typical system resistances (estimated at 75Pa for boost condition), at default speeds (1 and 3). Minimum heat exchanger efficiency at all settings is 66%.

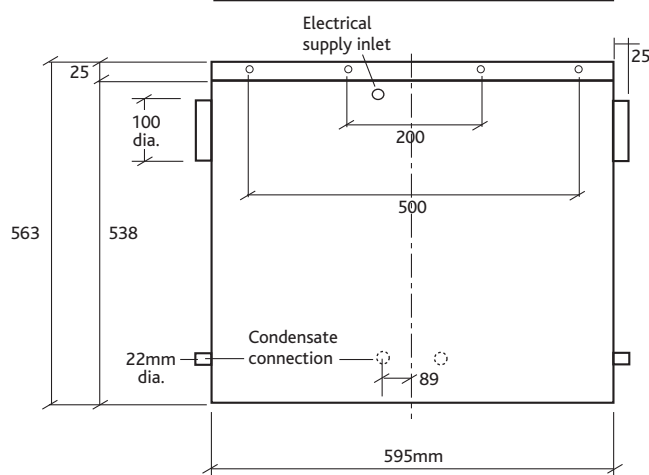
\*Unit has a soft start function therefore the starting current is same as flc.

## DIMENSIONS (MM) COOKERXBOX

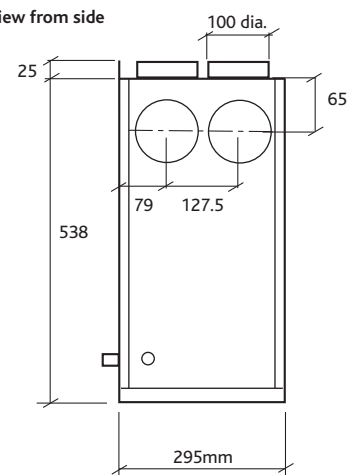
View from bottom



View from front



View from side



DUCTING CONNECTIONS

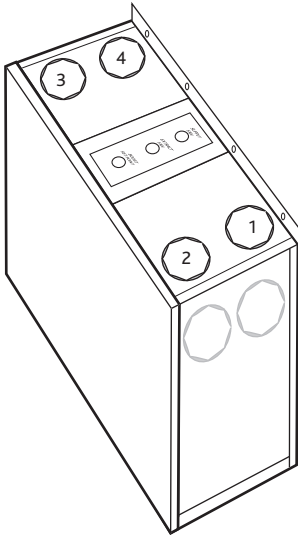
There are four ducting connections to be made from the sides of the unit. The four ducting positions on the top of the unit can be employed for other installation options.

- 1) Fresh air input to unit (100mm dia).
- 2) Exhaust air to outside (100mm dia).
- 3) Fresh air supply to dwelling (100mm dia). This duct should terminate via a discharge diffuser located centrally within the dwelling.
- 4) Extract air from bathroom/en-suite (100mm dia).

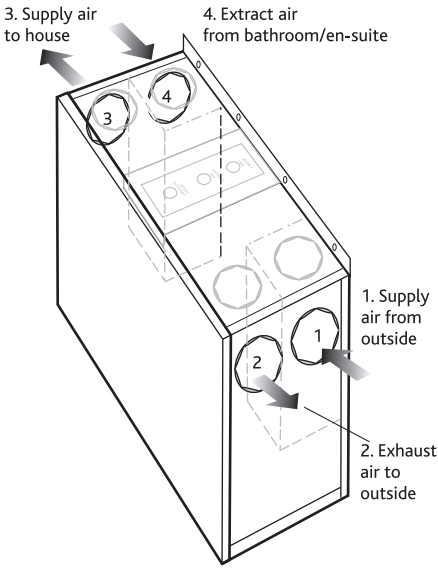
Note: the distance between the underside of the unit and the supporting surface for the cooking vessel must be at least 650mm.

TOP SPIGOT FUNCTIONS

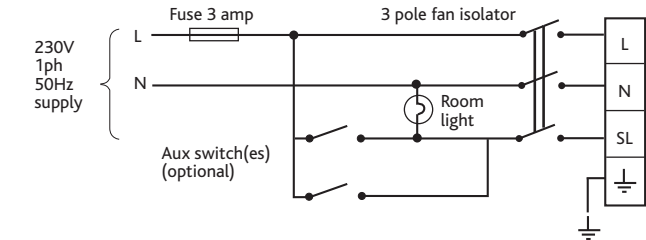
For optional installation choice. The numbered spigots perform the same function as the equivalent numbered side spigots.



SIDE SPIGOT FUNCTIONS



WIRING - COOKERXBOX



Operation

The unit is designed to continuously supply and extract air. The unit contains a thermostat to sense the extract air temperature. When the temperature exceeds the boost set point the extract fan boosts to full speed. Boost speed may also be activated by remote switch/es. Ensure that supply/extract motor wires are swapped over if opposite hand is required.

Boost Fan/s Selection

By default only the extract fan boosts to full speed. To change this to boost the supply fan as well as the extract fan, move link to position B.



Fan Speeds

Unless onsite conditions dictate otherwise both supply and extract fans should be set on the lowest setting.

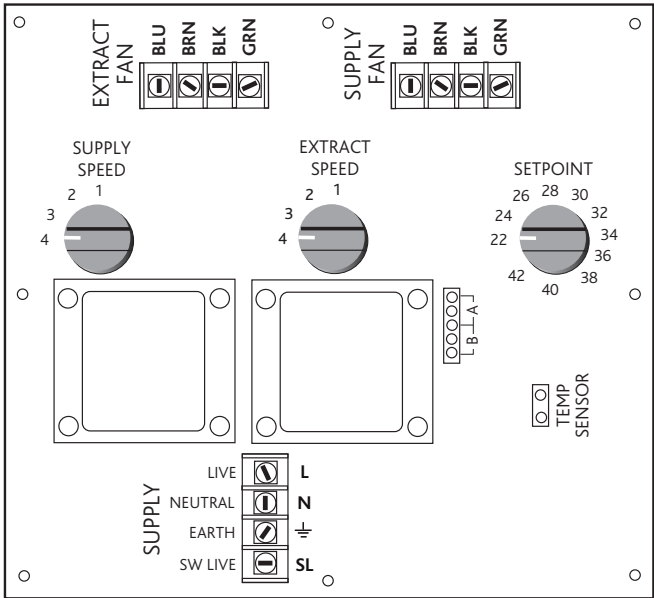
Boost Set Point

Boost should be triggered whilst cooking. It is suggested the set point should be set to 32°C although this may need changing depending on the user lifestyle.

Connecting Auxillary Switches

It is possible to provide additional control of the unit by means of up to two auxillary switches connected to the switched live. These switches may be operated manually or by additional Thermostats, Humidistats and PIR Detectors.

Circuit board connections.



## CONSULTANTS SPECIFICATION

### OPERATION

Whole home ventilation unit with heat recovery for homes without a loft.

### COOKERXBOX - UNIT SPECIFICATION

The casing shall be manufactured from easy to clean pre-coated galvanised steel.

A washable flame retardant supply air filter of G3 grade shall be fitted which may be accessed behind the grease filters. The unit shall incorporate two backward curved centrifugal impeller fans for continuous central input and demand activated multiple extract from 'wet' areas.

The fans shall be driven directly by high efficiency AC motors with a maximum power consumption of 60 watts each.

The unit shall incorporate an easily removable, washable plate heat exchanger manufactured in flame retardant aluminium. The heat exchanger shall be arranged to remove heat from the extract airflow and to transfer it to the input airflow whilst permitting no mixing.

Up to 66% of the available heat may be recovered.

The unit shall incorporate an integral grille with washable grease filters and may be configured for general kitchen extract or for above hob application.

The unit input fan volume control setting shall be adjustable via an integral 4 position switch and shall typically provide 14-33l/s continuously with the facility to boost, if required to 47l/s with the extract boost.

The unit extract fan shall operate continuously at a low background rate, typically 15-37l/s, set via an integral 4 position switch, boosting to high duty extract of approximately 47l/s when integral sensor detects available heat in the extract air stream. Alternatively, high duty extract may be via a separate switch (not supplied).

The standard warranty for cookerXbox shall be for 5 years.

## MRXBOX95B-LP1 MECHANICAL SUPPLY & EXTRACT WITH HEAT RECOVERY

VERY LOW DEPTH CEILING VOID HEAT RECOVERY UNIT  
SAP APPENDIX Q ELIGIBLE.



## BENEFITS

**MRXBOX95B-LP1** is specifically designed for apartment applications where there are ceiling void limitations. The MVHR unit provides optimised balanced (supply & extract) mechanical ventilation with heat recovery. Tempered air is delivered into 'living' areas whilst extracting moisture laden air from 'wet' areas, creating comfortable well ventilated homes. The unit has a facility to commission the supply & extract fans independently on both minimum and maximum speeds.

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### OPTIMUM PERFORMANCE

Low Specific Fan power and high efficiency results in SAP Q.

### EXTREMELY LOW NOISE LEVELS

Quiet running unit ensuring occupant acceptability.

### OVERCOMES VALUABLE CUPBOARD SPACE RESTRICTIONS

Mounted within ceiling void.

### ADDED SECURITY

Windows may be kept closed.

### IMPROVES INDOOR AIR QUALITY

High efficiency filters helps to create a healthy living environment.

### PROVIDES EXTRA STORAGE/CUPBOARD SPACE

Occupant acceptability.

### LOW & EASY MAINTENANCE

Easy accessible filters on underneath cover via loft hatch.

### INTEGRAL FROST PROTECTION

Protects the unit during extreme cold spells.

### DISCREET RUN MONITOR

### SIMPLE FAN CONTROLS

Independent controls for supply & extract for quick and easy commissioning.

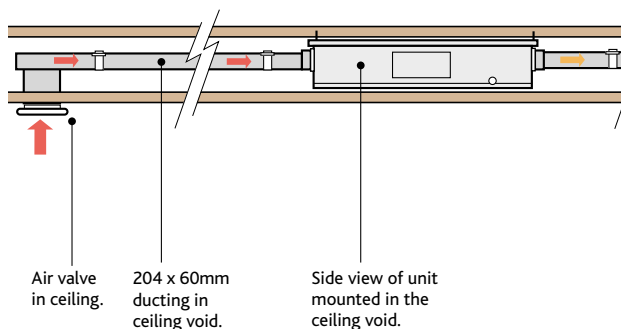
### NO REQUIREMENT FOR TRICKLE VENTS

Reduces noise from outside - overcomes draught issues.

### 5 YEAR WARRANTY

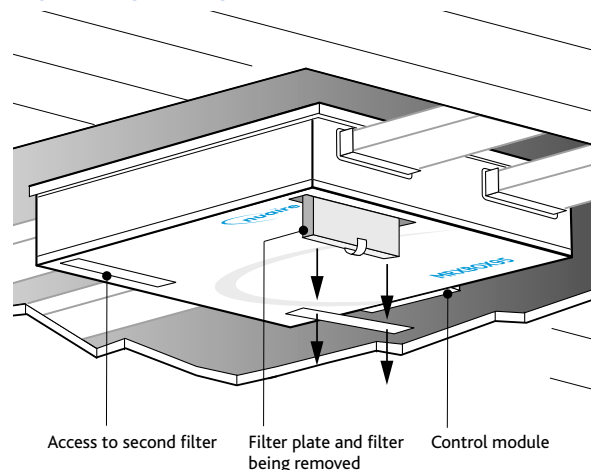
5 year parts and 1 year labour warranty guarantee reduced life costs and peace of mind.

### TYPICAL INSTALLATION



Typical side view example of a unit mounted in a ceiling void using 204 x 60mm rectangular ducting and air valves.

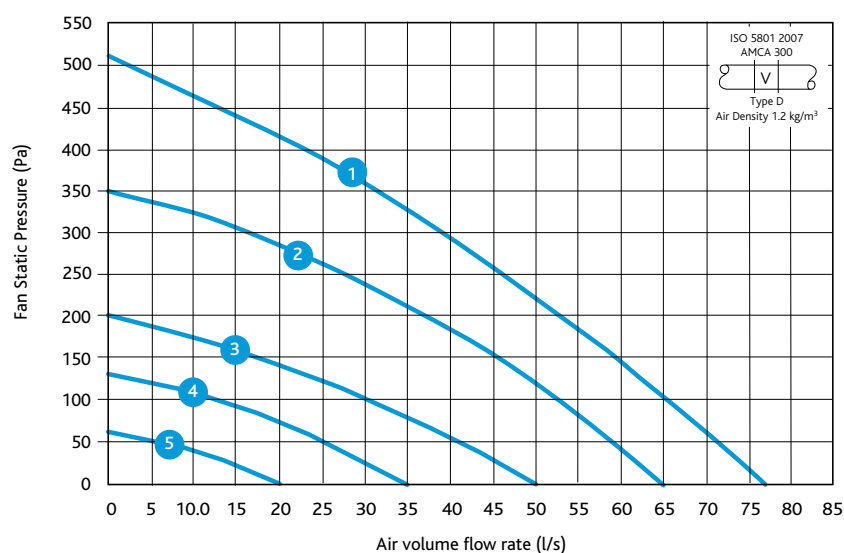
### INSTALLATION FEATURE



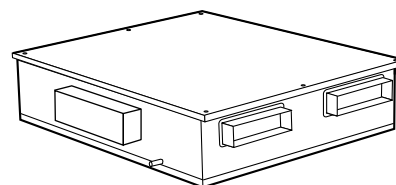
Removeable filters without removing the unit cover.

## PERFORMANCE

## MRXBOX95B-LP1



## Casing



## Code description

## MR-XBOX95-B-LP1

1 2 3 4

1. Multi-room supply and extract heat recovery
2. Product range
3. Bypass
4. Low profile

## MRXBOX95B-LP1

## ELECTRICAL &amp; SOUND

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW							dBA @3m
			63	125	250	500	1K	2K	4K	
1	100	Open inlet	50	56	55	55	46	42	32	23
		Open outlet	57	67	68	69	67	65	56	48
		Breakout	64	64	63	62	52	47	38	30
2	85	Open inlet	50	52	55	51	43	39	27	17
		Open outlet	56	63	65	65	63	59	51	42
		Breakout	62	62	61	57	48	43	32	20
3	65	Open inlet	45	47	48	44	35	30	20	9
		Open outlet	52	57	58	58	56	53	42	32
		Breakout	57	56	54	49	41	33	23	-
4	45	Open inlet	39	42	37	34	26	19	12	-
		Open outlet	46	50	49	49	46	44	30	21
		Breakout	50	49	44	39	29	19	14	-
5	26	Open Inlet	36	36	26	24	17	14	-	-
		Open outlet	39	43	37	38	35	28	17	10
		Breakout	42	40	33	27	14	-	-	-

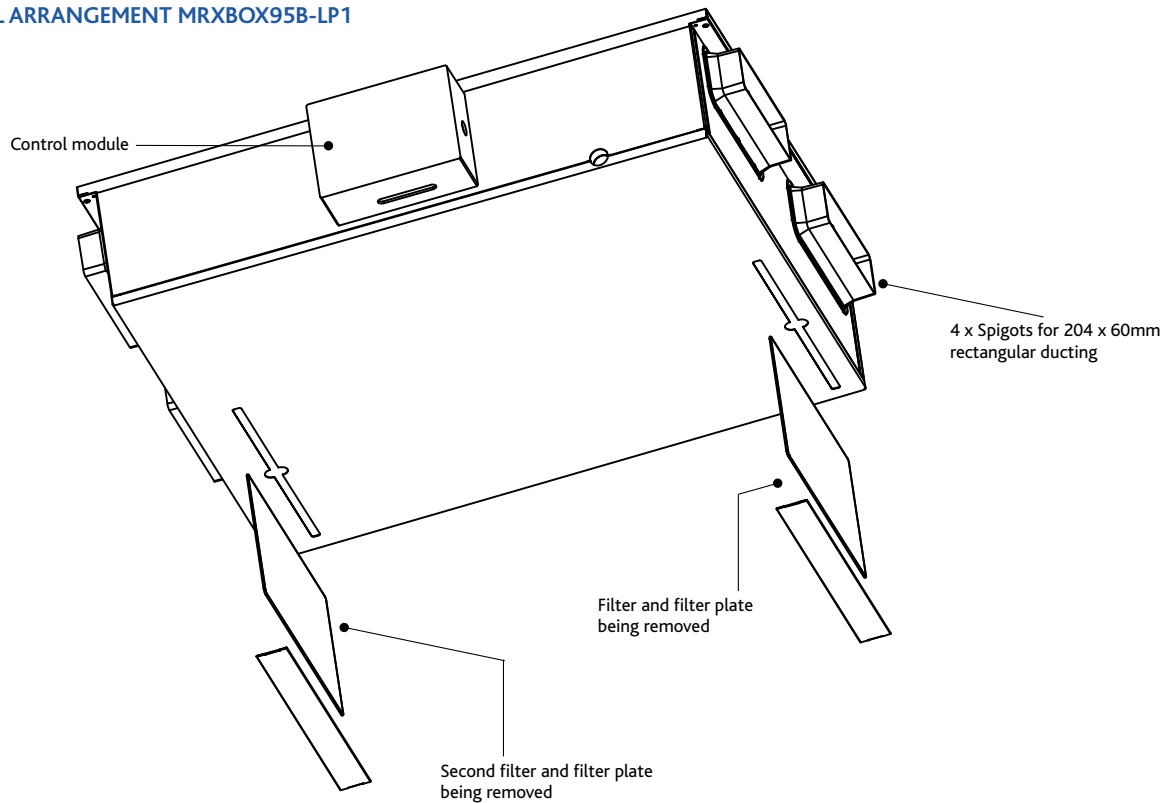
The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving based on SAP Appendix Q testing. Please note step curves shown are for information purposes only and are not individual units. The units actual duty range is infinitely variable.

## SAP APPENDIX Q TEST RESULTS

Exhaust terminal Configuration	Fan speed setting	Specific fan power (W/l/s)	Heat exchange efficiency %
Kitchen + 1 wet room	100% variable	0.54	75
Kitchen + 2 wet rooms	100% variable	0.60	76
Kitchen + 3 wet rooms	100% variable	0.69	77
Kitchen + 4 wet rooms	100% variable	0.79	78

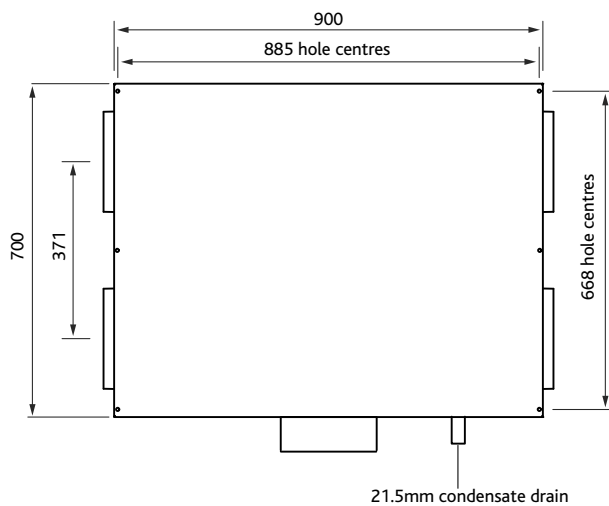
Exhaust terminal Configuration	Fan speed setting	Specific fan power (W/l/s)	Heat exchange efficiency %
Kitchen + 5 wet rooms	100% variable	0.95	78
Kitchen + 6 wet rooms	100% variable	1.14	79

## GENERAL ARRANGEMENT MRXBOX95B-LP1

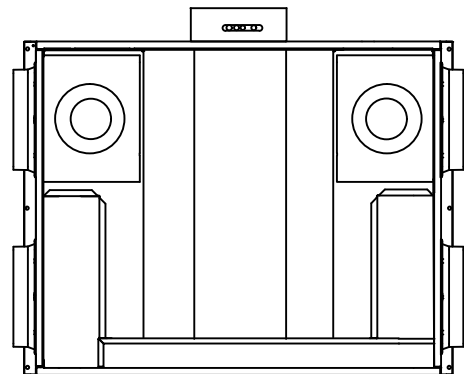


## MRXBOX95B-LP1 - DIMENSIONS (mm)

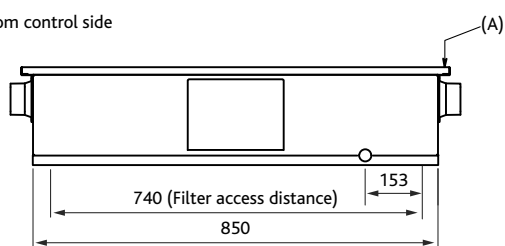
View from top with lid (A)



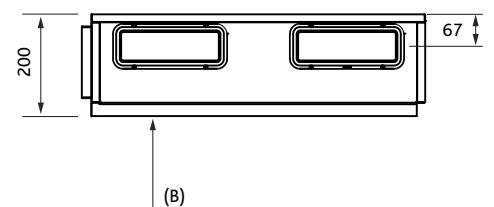
View from underside with lid removed (B)



View from control side



End view



ELECTRICAL CONNECTION

Please note: the electrical connection of the unit must be carried out by a qualified electrician.

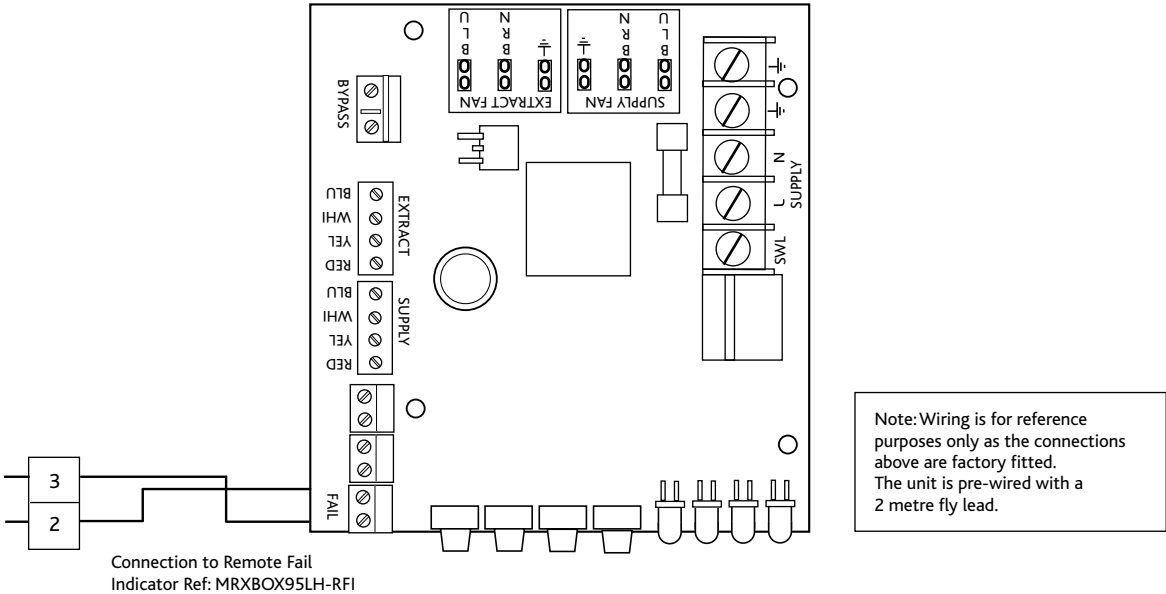
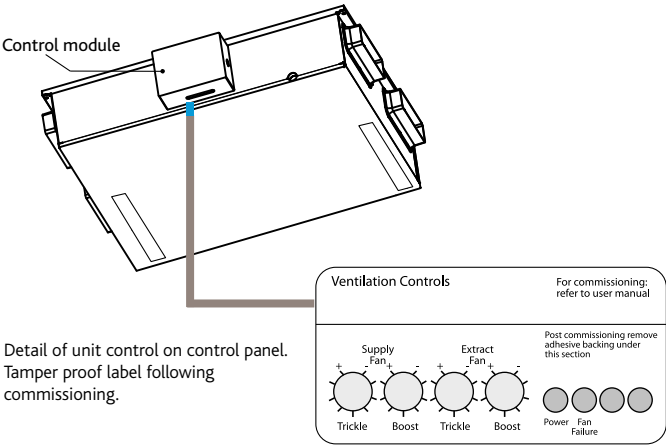
The unit is supplied with a flexible cord for connection to the mains supply.

Electrical details:-

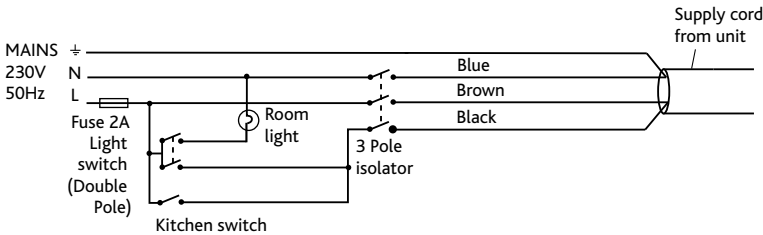
Voltage:	240V 1ph 50Hz
Consumption:	LP1 - 1.3 Amp
Fuse rating:	3 Amp

NOTE: This unit must be earthed.

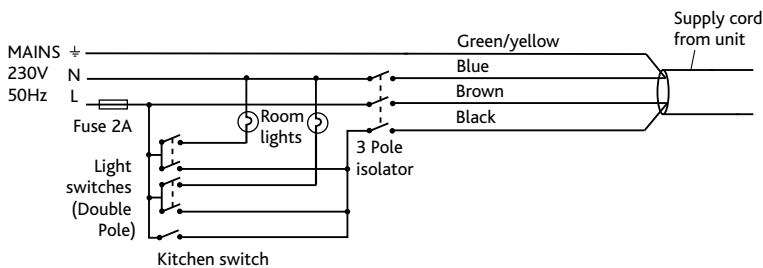
The three core cable from the mains power supply should be connected to a fixed wiring installation, via a fused isolator, in accordance with current IEE wiring regulations.



UNIT SERVING KITCHEN AND BATHROOM



UNIT SERVING KITCHEN AND TWO BATHROOMS



## CONSULTANTS SPECIFICATION

### OPERATION

The supply and extract ventilation unit shall be positioned as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from the wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element.

The extracted air shall also be filtered before it reaches the heat exchanger block.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Switched live signal from light / remote switches.

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

The unit shall have the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation), and boost speed, via inbuilt minimum and maximum speed adjustment. The fans shall have infinitely variable speed control.

### SPECIFICATION

The unit shall be manufactured from galvanised sheet steel with a white, pre-painted removable access panel. The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate, aluminium, counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 80%. The heat exchanger shall be protected by G3 grade filters on fresh air inlet and system extract. The heat exchanger and filters shall be accessible via the underside access panels, enabling quick and easy maintenance.

The unit shall have a maximum depth of 200mm to fit within ceiling void restrictions.

The unit shall have low energy, high efficiency EC fan/motor assemblies with sealed for life bearings, the impellers shall be backward curved centrifugal type.

The motors shall be suitable for an ambient temperature of 40°C.

Motor assemblies shall be removable from the underside of the unit and will not require the unit to be removed from situ.

The unit shall be supplied complete with a condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 204x60mm rectangular ducting.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

Units shall be MRXBOX95B-LP1 as manufactured by Nuaire.

The unit shall be fitted with 100% summer bypass as standard.

The bypass opens automatically when outside temperature exceeds 20 Deg.C.

This shall open the damper via an actuator. Outside air supplied through the bypass shall be filtered, so the air quality is optimal, irrespective of the bypass setting (open or closed).

The unit shall be offered with a 5 year warranty

### CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer:

- Independent control of background supply and extract flow rates.
- Independent control of boost speed supply and extract flow rates.
- Integral fan failure indication.
- Integral S/L terminal for boost from remote switch, e.g. light switch.
- Integral heat exchanger frost protection.
- Discreet daily run monitor.

### OPTIONAL CONTROLS

MRXBOX95WH-RFI	Remote fail indicator.
230-PIR	PIR Sensor with run-on timer.
HUMISEN	230V Humidistat.
773532	Normal/boost switch.

## MRXBOX95-WM2 MECHANICAL VENTILATION WITH HEAT RECOVERY

UP TO 90% EFFICIENT, SAP APPENDIX Q RECOGNISED.  
WALL/CUPBOARD MOUNTING DESIGN FOR MEDIUM SIZED  
HOUSES & APARTMENTS.



## BENEFITS

**MRXBOX95-WM2** is designed to provide optimised balanced (supply & extract) mechanical ventilation with heat recovery. Tempered air is delivered into 'living' areas whilst extracting moisture laden air from 'wet' areas creating comfortable well ventilated homes. The unit has the facility to commission the supply & extract fans independently on both minimum and maximum speeds. The heat exchanger block can recover up to 90% of normally wasted heat.

### MEETS BUILDING REGULATIONS

SAP Appendix Q recognised. Part F&L - England & Wales. Scottish technical handbook (BRE398 referenced). Technical booklet K1998.

### OPTIMUM PERFORMANCE

Low Specific Fan power and high efficiency results in SAP Q.

### SUITABLE FOR MEDIUM SIZE APPLICATIONS

Designed to meet the duty for average, medium size properties.

### COMPACT

The unit fits easily into cupboards not taking up valuable storage space.

### EXTREMELY LOW NOISE LEVELS

Quiet running unit ensuring occupant acceptability.

### ADDED SECURITY

Windows may be kept closed.

### IMPROVES INDOOR AIR QUALITY

High efficiency filters helps to create a healthy living environment.

### LOW & EASY MAINTENANCE

Easy accessible filters from front cover – no tools required. Filter replacement typically every 12 - 18 months.

### DESCREET RUN MONITOR

Records units operational time.

### INTEGRAL FROST PROTECTION

Protects the unit during extreme cold spells.

### PRE-COMMISSIONING FILTER PROTECTION

Filters are covered in a removable protective film to prevent clogged up filters prior to occupant handover.

### SIMPLE FAN CONTROLS

Independent controls for supply & extract for quick and easy commissioning.

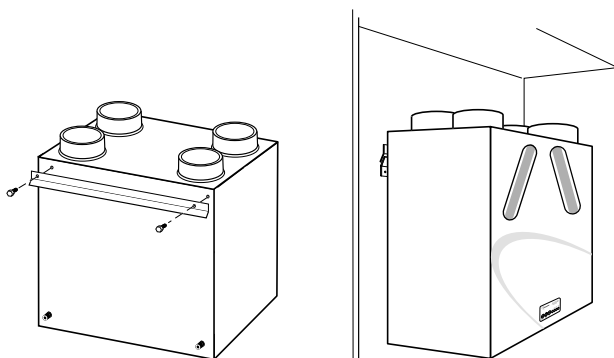
### NO REQUIREMENT FOR TRICKLEVENTS

Reduces noise from outside - overcome draught issues.

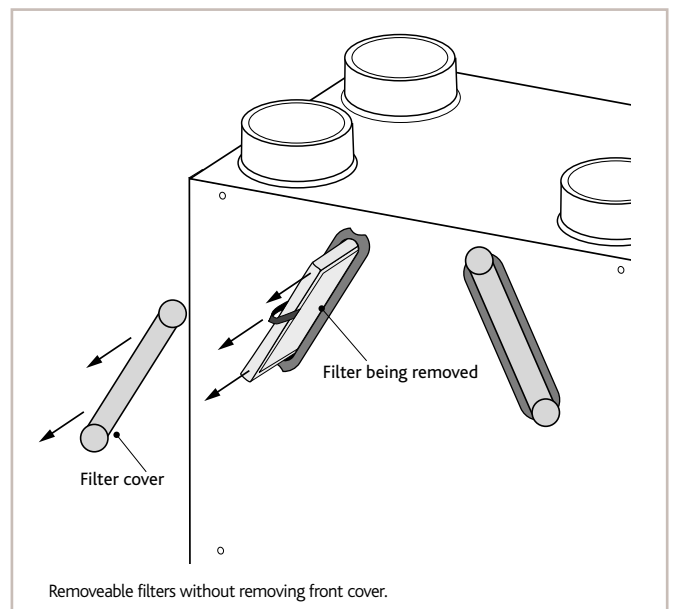
### 5 YEAR WARRANTY

5 year parts and 1 year labour warranty guarantee reduced life costs and peace of mind.

## INSTALLATION FEATURES



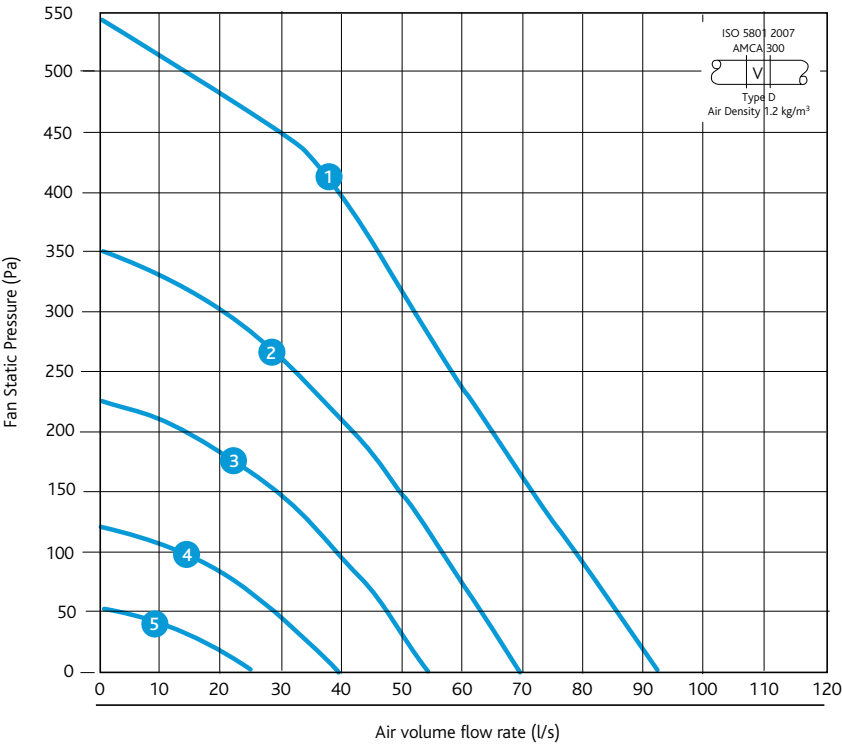
Typical cupboard installation of MRXBOX95-WM2.



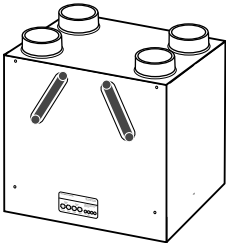
Removeable filters without removing front cover.

PERFORMANCE

MRXBOX95-WM2



Casing



Code description

MR-XBOX95-WM2

- 1

2

3

4
1. Multi-room supply and extract heat recovery

2. XBOX95 product range

3. Wall/cupboard application

4. Medium duty

MRXBOX95-WM2

ELECTRICAL & SOUND

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW								dBA @3m
			63	125	250	500	1K	2K	4K	8K	
1	150	Open inlet	57	57	61	56	50	47	36	34	40
		Open outlet	55	65	71	67	64	60	51	43	52
		Breakout	61	61	56	53	47	44	35	33	37
2	75	Open inlet	51	51	55	48	40	35	25	20	32
		Open outlet	53	59	61	58	55	52	39	32	43
		Breakout	56	55	51	44	38	35	23	17	29
3	36	Open inlet	48	48	48	42	33	28	18	<16	26
		Open outlet	52	56	55	53	49	45	32	25	37
		Breakout	52	54	47	39	33	30	<16	<16	26
4	14	Open inlet	44	44	39	34	27	21	<16	<16	18
		Open outlet	51	52	49	48	43	37	25	18	31
		Breakout	49	52	44	34	29	25	<16	<16	22
5	8	Open Inlet	40	39	25	22	18	<16	<16	<16	<16
		Open outlet	50	48	41	41	36	24	17	<16	24
		Breakout	46	50	39	27	22	19	<16	<16	18

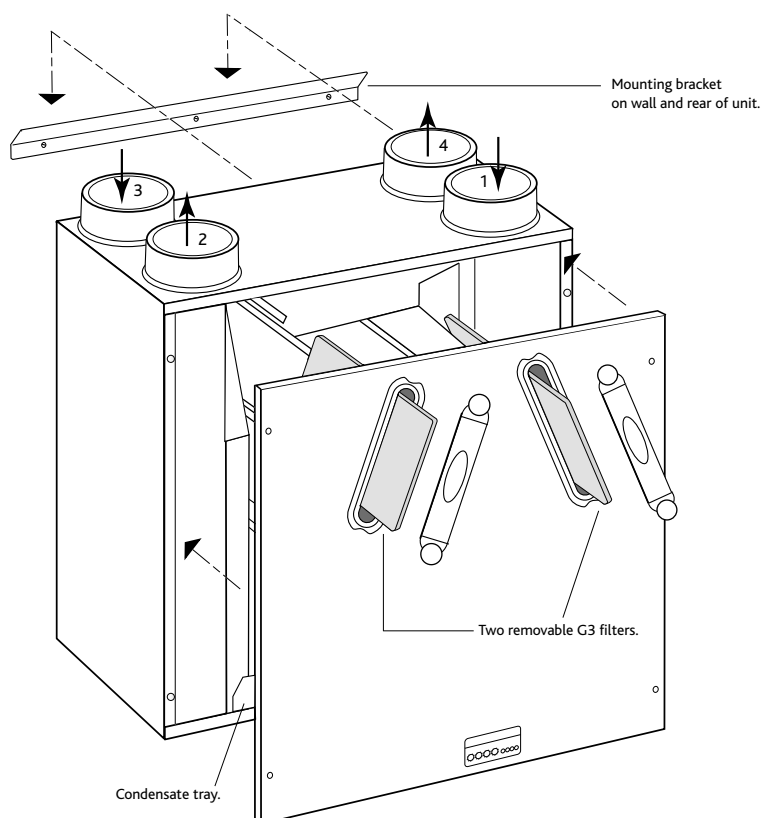
The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving based on SAP Appendix Q testing.

SAP APPENDIX Q TEST RESULTS

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Compliant
Kitchen Plus 1 wet room	0.54	89	Yes
Kitchen Plus 2 wet rooms	0.54	87	Yes
Kitchen Plus 3 wet rooms	0.62	87	Yes

Application	Specific fan power (W/l/s)	Heat exchange efficiency %	Energy Saving Trust Best Practice Compliant
Kitchen + 4 wet rooms	0.73	86	Yes
Kitchen + 5 wet rooms	0.87	86	Yes

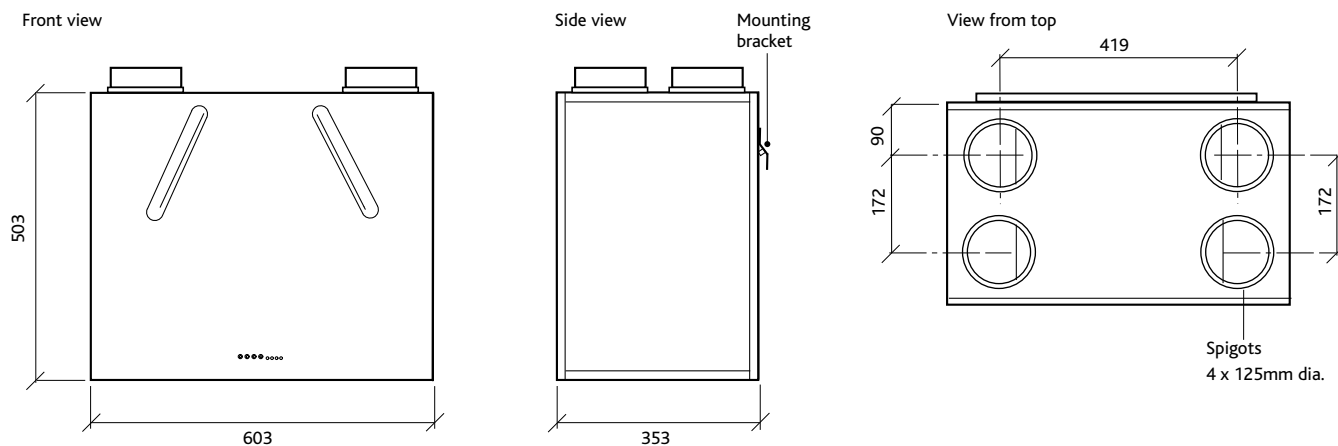
## GENERAL ARRANGEMENT MRXBOX95-WM2



### SPIGOT LOCATION & DUCTING REFERENCES

- Spigot 1. 125mm dia. = extract air from dwelling.
- Spigot 2. 125mm dia. = exhaust air to outside.
- Spigot 3. 125mm dia. = intake air from outside.
- Spigot 4. 125mm dia. = supply air to house.

### MRXBOX95-WM2 - DIMENSIONS (mm)



ELECTRICAL CONNECTION

Please note: the electrical connection of the unit must be carried out by a qualified electrician.

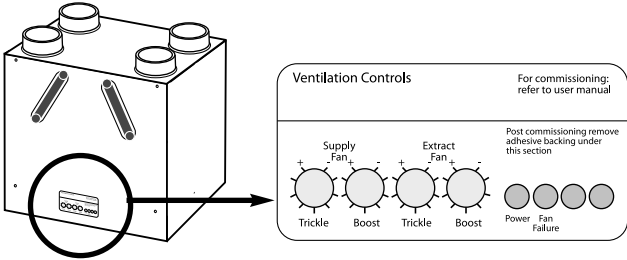
The unit is supplied with a flexible cord for connection to the mains supply.

Electrical details:-

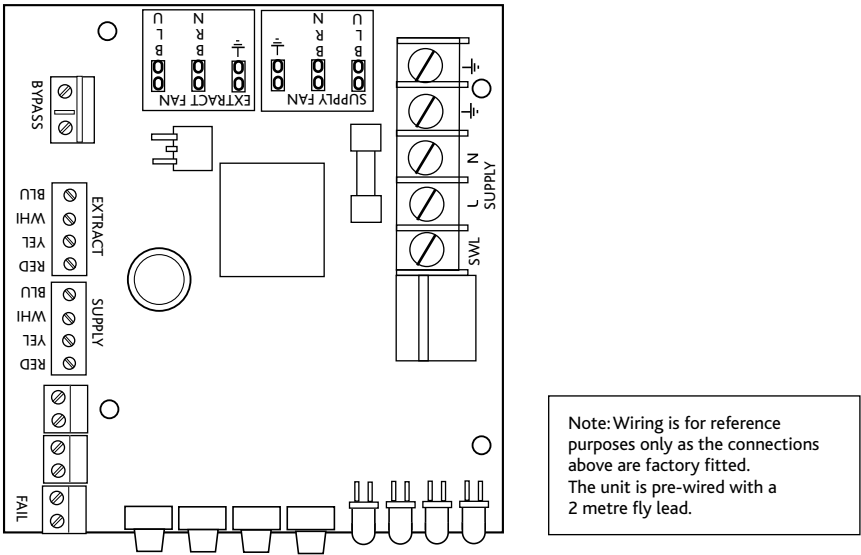
Voltage:	240V 1ph 50Hz
Consumption:	WM2 - 1.3 Amp
Fuse rating:	3 Amp

NOTE: This unit must be earthed.

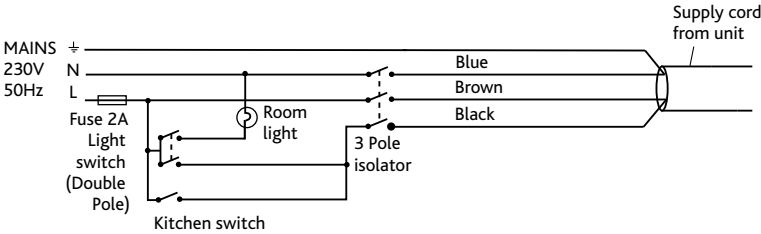
The mains power supply cable should be connected to a fixed wiring installation, via a fused isolator, in accordance with current IEE wiring regulations.



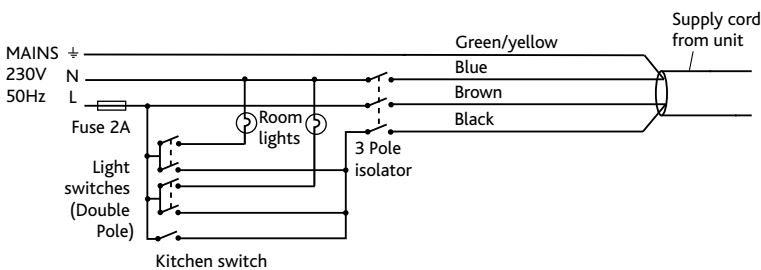
Detail of unit control on front panel.  
Tamper proof label following commissioning.



UNIT SERVING KITCHEN AND BATHROOM



UNIT SERVING KITCHEN AND TWO BATHROOMS



## CONSULTANTS SPECIFICATION

### OPERATION

The supply and extract ventilation unit shall be positioned as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification.

The combined supply and extract with heat recovery unit, shall supply filtered fresh air to each of the habitable rooms and vitiated air shall be extracted from the wet areas e.g. bathroom, en-suite, w.c, kitchen, utility rooms, etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element. The extracted air shall also be filtered before it reaches the heat exchanger block.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

- Switched live signal from light / remote switches.

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

The unit shall have the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation), and boost speed, via inbuilt minimum and maximum speed adjustment. The fans shall have infinitely variable speed control.

### SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi plate counter flow high efficiency heat exchanger block, with a thermal efficiency of up to 90%. The heat exchanger shall be protected by G3 grade filters on fresh air inlet and system extract.

The heat exchanger and filters shall be accessible via the front access panel, enabling quick and easy maintenance.

The unit shall have low energy, high efficiency EC fan/motor assemblies with sealed for life bearings, the impellers shall be backward curved centrifugal type. The motors shall be suitable of an ambient temperature of 40°C.

The unit shall be supplied complete with a condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 125mm diameter circular ducting.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

Units shall be MRXBOX95-WM2 as manufactured by Nuaire.

### CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer:

- Independent control of background supply and extract flow rates.
- Independent control of boost speed supply and extract flow rates.
- Integral fan failure indication.
- Integral S/L terminal for boost from remote switch, e.g. light switch.
- Integral heat exchanger frost protection.
- Discreet daily run monitor.

### OPTIONAL CONTROLS

MRXBOX95WH-RFI Remote fail indicator.

The unit shall be offered with a 5 year warranty.

The manufacturer's recommendations should be observed at all times.

The unit shall be the MRXBOX95-WM2 and shall be manufactured by Nuaire.